

# 2007-2008 West Virginia Behavioral Risk Factor Survey Report



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**2007 - 2008**  
**WEST VIRGINIA**  
**BEHAVIORAL RISK FACTOR**  
**SURVEY REPORT**

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March 2011

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### **Suggested Citation**

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2007 - 2008 West Virginia  
Behavioral Risk Factor Survey Report  
WV Health Statistics Center, 2010

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# EXECUTIVE SUMMARY

## INTRODUCTION

Each year since 1984, the West Virginia Behavioral Risk Factor Survey has measured a range of risk factors that can affect our health. This report presents state survey results for the years 2007 and 2008 as well as county data combined for the latest available five years (typically 2004 through 2008).

The survey is conducted by telephone and represents a collaborative effort between the West Virginia Bureau for Public Health (WVBPH) and the Centers for Disease Control and Prevention (CDC) in Atlanta. Standardized survey methods are provided by CDC. All 50 states, the District of Columbia, and several U.S. territories now participate in the system, known as the Behavioral Risk Factor Surveillance System (BRFSS).

The information in this document serves as a resource for governments, business leaders, schools, and community groups, all of which are helping to shape the health of West Virginia.

## HIGHLIGHTS OF FINDINGS

### Health Status

- West Virginia ranked 3rd highest nationally in 2007 and 2nd highest in 2008 in reporting the general health of adults as either “fair” or “poor.”
- Almost one-fourth of West Virginia adults (21.6% in 2007 and 24.1% in 2008) consider their health to be either “fair” or “poor.”
- “Fair” or “poor” health is most common among groups of adults who are the oldest, least educated, or lowest in household incomes.

### Health Care Access

- About one-fifth of West Virginia adults age 18 to 64 have no health care coverage (20.6% in 2007 and 19.8% in 2008).
- Among adults of all ages, slightly less than one-fifth needed medical care within the past 12 months and could not afford it (17.2% in 2007 and 17.9% in 2008).
- More than one-fifth of all age adults also do not have a specific personal doctor or health care provider (21.7% in 2007 and 22.0% in 2008).

### Physical Inactivity

- More than one-fourth of state adults (28.2% in 2007 and 31.1% in 2008) participate in no leisure-time physical activity or exercise. A downward trend occurring between 1998 and 2006 was followed by increases in 2007 and 2008.
- The prevalence of physical inactivity was significantly higher among women than men in both 2007 and 2008.
- Physical inactivity is also more prevalent among groups who are older, less educated, or from lower income households.

### Nutrition

- Eight out of every 10 adults (80.3%) consume fewer than the recommended five servings of fruits and vegetables each day. West Virginia ranked 10<sup>th</sup> highest nationally in the prevalence of this risk factor in 2007.
- Men had a significantly higher prevalence of this risk factor than women.
- Highest prevalence was found among those with less education and lower income.

### **Obesity and Overweight**

- The obese proportion of the adult population was 30.3% in 2007 and 31.9% in 2008, 5<sup>th</sup> highest nationally in 2007 and 3<sup>rd</sup> highest nationally in 2008.
- Between 1987 and 2008, a substantial increase in obesity occurred among West Virginia adults. Men and women from a wide range of age, education, and income categories contributed to this unhealthy trend.
- During 2007 and 2008, approximately two-thirds of West Virginia adults were either obese or overweight.

### **Tobacco Use**

- More than one-fourth of adults (26.9% in 2007 and 26.5% in 2008) smoke every day or some days. West Virginia ranked 3<sup>rd</sup> highest in 2007 and 2<sup>nd</sup> highest in 2008 in the prevalence of this risk factor among national BRFSS participants.
- The prevalence of smoking has remained relatively stable over the past five years.
- Smoking prevalence was highest among younger individuals and those with less education and lower annual household incomes.

### **Hypertension**

- West Virginia ranked 3<sup>rd</sup> highest nationally in 2007 in the prevalence of hypertension (high blood pressure). A third of the state's adults (33.3%) have been diagnosed with high blood pressure.
- The prevalence of high blood pressure increased steeply and significantly with increasing age, as would be expected.
- Adults with less income and less education had the highest prevalence of hypertension.

### **Cholesterol**

- In 2007, 42.2% of adults had high cholesterol, the highest in the nation.
- Similar to hypertension, high cholesterol is more prevalent among older adults and those with low levels of educational attainment and annual household income.

### **Alcohol Consumption**

- West Virginia alcohol consumption remains notably low in comparison with levels consumed elsewhere in the U.S.
- Binge drinking was 9.7% in 2007 and 8.8% in 2005 (a national rank of 52<sup>nd</sup> in 2007 and 53<sup>rd</sup> in 2008).
- Binge drinking was most prevalent among younger adults.
- Heavy drinking was 3.4% in 2007 and 2.9% in 2008 (a national rank of 51<sup>st</sup> in 2007 and 54<sup>th</sup> in 2008).

### **Oral Health**

- More than a third of adults (38.6%) in 2008 had not had their teeth cleaned by a dentist or dental hygienist in the past year. West Virginia's rank was 7<sup>th</sup> highest nationally.
- The prevalence for this risk factor was significantly higher among men than women.
- The highest prevalence of this risk factor was among those with less than a high school education, in households with an annual income of less than \$15,000, and in the 25-34 age group.
- Additionally, 60.3% of adults had at least one and 30.9% had six or more teeth missing. Among those aged 65 and older, 37.8% were missing all of their teeth.

## **Immunization**

- Among adults aged 65 and older, over a fourth had not had a flu shot in the past 12 months (29.3% in 2007 and 28.9% in 2008). Over 30% of state seniors had never had a pneumonia shot (32.7% in 2007 and 31.8% in 2008).

## **Colorectal Cancer Screening**

- Over three-quarters (78.1% in 2008) of adults aged 50 and older reported that they did not perform a home stool blood test (FOBT) in the past two years. The prevalence of this risk factor was significantly higher among women than men.
- Almost half (45.3% in 2008) of West Virginia adults over the age of 50 never had a sigmoidoscopy or colonoscopy (5<sup>th</sup> highest in the nation).
- Low income and educational attainment appear to be important factors associated with the use of colorectal cancer screening.

## **Prostate Cancer Screening**

- Thirty-four percent (34.0% in 2008) of men over the age of 40 never had a DRE (digital rectal exam), 5<sup>th</sup> highest in the nation.
- Similarly, 34.2% of men aged 40 and older never had a PSA (prostate specific antigen) test in 2008.
- The prevalence of both these risk factors is highest among those with less than a high school education.

## **Breast and Cervical Cancer Screening**

- Among women aged 40 and older, 36.6% reported in 2008 that they did not have a clinical breast exam (CBE) in the past year.
- Among women aged 40 and older, 26.3% reported in 2008 that they have not had a mammogram in the past two years.
- Almost one-fifth (19.2% in 2008) of all women aged 18 and older did not have a Pap test in the past three years, 12<sup>th</sup> highest in the nation. Additionally, 5.4% (in 2008) never had a Pap test.
- The prevalence of these risk factors was highest among those with less income and educational attainment.

## **Cardiovascular Disease**

- West Virginia ranked 2<sup>nd</sup> in the nation in 2007 and 1<sup>st</sup> in the nation in 2008 in the prevalence of heart attack among adults. The prevalence of heart attack was 6.0% in 2007 and 7.7% in 2008.
- Men had a significantly higher prevalence of heart attack than women (7.6% vs. 4.4% in 2007 and 9.5% vs. 6.0% in 2008).
- West Virginia also ranked higher than any other state in both 2007 and 2008 in prevalence of angina or coronary heart disease among adults (7.6% in 2007 and 8.1% in 2008).
- For the prevalence of stroke among adults, West Virginia ranked 9<sup>th</sup> highest nationally in 2007 and 1<sup>st</sup> highest in 2008 (3.2% in 2007 and 4.3% in 2008).
- The prevalence of heart attack, angina, and stroke was significantly higher among those 65 and older, those with less than a high school education, and those with an annual household income of less than \$15,000.

## **Diabetes**

- Over 10% of West Virginia adults have diabetes (10.8% in 2007 and 11.9% in 2008). West Virginia ranked 4<sup>th</sup> nationally in 2007 and 2<sup>nd</sup> nationally in 2008.
- The prevalence of diabetes was highest among those aged 65 and older, those with less than a high school education, and those with the lowest income.

### **Asthma**

- In 2007, 12.2% of adults had ever been diagnosed with asthma (38<sup>th</sup> highest nationally) while 9.0% had asthma currently (14<sup>th</sup> highest nationally).
- In 2008, 13.7% of adults had ever been diagnosed with asthma (25<sup>th</sup> highest nationally) while 9.6% had asthma currently (9<sup>th</sup> highest nationally).
- Women had significantly higher prevalence of both lifetime and current asthma than men in 2008.
- The prevalence of current asthma was significantly higher among those without a high school diploma and those with an income of less than \$15,000. Additionally, the prevalence was almost four times higher among those with low income versus those with high income.

### **Arthritis**

- West Virginia ranked higher than any other state in 2007 in the prevalence (35.5%) of adults with arthritis.
- There was a significant age difference associated with arthritis prevalence. Less than 15% of adults aged 18-24 were diagnosed with arthritis, compared with nearly 60% of those aged 65 and older.
- Arthritis prevalence was also highest among those with lower income and less education.

### **Disability**

- West Virginia had the highest disability prevalence nationwide in both 2007 and 2008. More than one-fourth of adults were disabled because of a physical, mental, or emotional problem (25.9% in 2007 and 29.4% in 2008).
- Disability prevalence was highest among older adults, adults who did not have a high school degree, and lower income adults.

### **Emotional Support and Life Satisfaction**

- Approximately 8 in 10 West Virginia adults reported that they usually or always get the social and emotional support they need (80.3% in 2007 and 81.8% in 2008).
- Over 9 in 10 West Virginia adults (92.2%) were satisfied or very satisfied with their own lives in both 2007 and 2008.
- These factors were highest among adults with higher levels of education and income.

### **HIV Testing**

- About a third of adults in West Virginia have been tested for HIV (35.0% in 2007 and 31.8% in 2008).
- In both 2007 and 2008, the prevalence of HIV testing was highest among those aged 25-34.

### **Comorbidities**

- About 1 in 6 West Virginia adults (16.1%) were both disabled and had fair/poor health in 2008.
- About 1 in 8 West Virginia adults (12.1%) were obese and did not exercise in 2008.
- Also in 2008, 8.1% of adults were current smokers and had no health care coverage.

## ESTIMATED NUMBER OF PERSONS AT RISK

Table I below shows selected risk factor rates and the corresponding numbers of West Virginians who are estimated to be at risk. Data are shown for the latest available year.

**Table I: Percentage and number of persons estimated at risk due to selected risk factors (among adults aged 18 and older or appropriate subset): WVBRFSS, 2007-2008**

Risk Factor	Year	Percentage Estimated at Risk <sup>a</sup>	Number Estimated at Risk <sup>a</sup>
Self-rated general health is fair or poor	2008	24.1	344,899
No health care coverage, ages 18-64	2008	19.8	226,272
Unable to afford needed medical care	2008	17.9	257,116
No personal doctor or health care provider	2008	22.0	315,182
No leisure-time exercise	2008	31.1	445,906
Fewer than 5 servings of fruit/vegetables per day	2007	80.3	1,149,175
Obesity (BMI 30.0+)	2008	31.9	444,480
Overweight (BMI 25.0-29.9)	2008	36.9	513,326
Current cigarette smoking	2008	26.5	380,233
Binge drinking	2008	8.8	124,406
Heavy drinking	2008	2.9	40,325
Diabetes	2008	11.9	171,499
High blood pressure	2007	33.3	479,329
High blood cholesterol (among those ever checked)	2007	42.4	476,200
Have had heart attack	2008	7.7	109,924
Have angina or coronary heart disease	2008	8.1	115,754
Have had stroke	2008	4.3	61,396
No home stool blood test in past 2 years, ages 50+	2008	78.1	508,723
Never had sigmoidoscopy or colonoscopy, ages 50+	2008	45.3	298,155
Never had digital rectal exam, men ages 40+	2008	34.0	145,168
Never had Prostate Specific Antigen (PSA) test, men ages 40+	2008	34.2	140,397
No clinical breast exam in past 1 year, women ages 40+	2008	36.6	175,101
No mammogram in past 2 years, women ages 40+	2008	26.3	126,959
No Pap test in past 3 years, women ages 18+	2008	19.2	103,850
Never had Pap test, women ages 18+	2008	5.4	39,554
Lifetime asthma	2008	13.7	196,107
Current asthma	2008	9.6	137,715
Arthritis	2007	35.5	508,319
Disability	2008	29.5	423,071
No flu immunization in past 12 months, ages 65+	2008	28.9	82,812
Never had pneumonia shot, ages 65+	2008	31.8	89,663
No professional dental cleaning in past year (among those with teeth)	2008	38.6	472,228
6 or more teeth removed due to tooth decay or gum disease	2008	30.9	440,054
All teeth removed, ages 65+	2008	37.8	106,934

a. The percentages and numbers of persons estimated to be at risk are subject to sampling error. Please refer to the confidence intervals presented in the chapters of this report for a more complete perspective. In addition, the risk estimates were derived from population estimates available at the end of the data collection period. Later estimates of the same population may result in different estimated numbers of persons at risk.

## DEFINITIONS OF COMMON TERMS

### **Risk Factor**

A risk factor is a health-related behavior or practice that has been shown to increase the probability of developing a condition or disease. This report presents West Virginia prevalence estimates for selected risk factors.

### **Prevalence**

Prevalence is the percentage of the population having a particular condition or characteristic or practicing a certain health-related behavior. This report presents the results of the Behavioral Risk Factor Surveillance Survey (BRFSS) in West Virginia as a series of prevalence estimates for selected risk factors. Prevalence can also be calculated as a rate or frequency.

### **Confidence Intervals**

Confidence intervals (CIs) reflect sampling error. They are presented as upper and lower boundary values surrounding the prevalence estimate; the true value of the estimate can be expected to fall within this range with a confidence of 95%.

### **Significant**

Significant is the term used to describe prevalence estimates that have been tested and found to be statistically different. In this report, a difference is said to be significant when the 95% confidence intervals (CIs) associated with each of the prevalence estimates do not overlap. In other words, it can be stated with 95% certainty that the difference found between the two prevalence estimates is not a random occurrence. Identifying differences as significant can detect changes in prevalence over time and direct attention to characteristics associated with a particular health condition or risk behavior. In this report, adjectives such as slight, minor, and little may be used to describe less reliable differences, those for which the confidence intervals do overlap. See Methodology on page 9 for additional discussion.

## TABLE OF CONTENTS

<i>Executive Summary</i>	<i>iii</i>
<i>Introduction</i>	<i>1</i>
<i>Methodology</i>	<i>3</i>
<i>Chapter 1: Health Status</i>	<i>12</i>
<i>Chapter 2: Health Care Access</i>	<i>15</i>
<i>Chapter 3: Physical Inactivity</i>	<i>22</i>
<i>Chapter 4: Nutrition</i>	<i>25</i>
<i>Chapter 5: Obesity and Overweight</i>	<i>27</i>
<i>Chapter 6: Tobacco Use</i>	<i>31</i>
<i>Chapter 7: Hypertension</i>	<i>34</i>
<i>Chapter 8: Cholesterol</i>	<i>36</i>
<i>Chapter 9: Alcohol Consumption</i>	<i>38</i>
<i>Chapter 10: Oral Health</i>	<i>43</i>
<i>Chapter 11: Immunization</i>	<i>45</i>
<i>Chapter 12: Colorectal Cancer Screening</i>	<i>48</i>
<i>Chapter 13: Prostate Cancer Screening</i>	<i>49</i>
<i>Chapter 14: Breast and Cervical Cancer Screening</i>	<i>50</i>
<i>Chapter 15: Cardiovascular Disease</i>	<i>53</i>
<i>Chapter 16: Diabetes</i>	<i>56</i>
<i>Chapter 17: Asthma</i>	<i>59</i>
<i>Chapter 18: Arthritis</i>	<i>63</i>
<i>Chapter 19: Disability</i>	<i>65</i>
<i>Chapter 20: Emotional Support and Life Satisfaction</i>	<i>67</i>
<i>Chapter 21: HIV Testing</i>	<i>69</i>
<i>Chapter 22: Comorbidities</i>	<i>70</i>
<i>Appendix A: Selected Behavioral Risk Factor Prevalences by Year in West Virginia</i>	
<i>Appendix B-M: Behavioral Risk Factor Prevalences by State for Each Year</i>	
<i>Appendix N: Groupings for County-Level Analysis</i>	
<i>Appendix O: Behavioral Risk Factors and Health Conditions by County</i>	

## INTRODUCTION

Personal health practices have been shown to be important determinants of overall health. Unhealthy behaviors such as smoking, overeating, or lack of exercise can lead to the chronic diseases that cause more than 50% of all deaths in the United States. Other practices, such as getting vaccinated or wearing seatbelts, have a positive effect by preventing disease and unintentional injury. It is clear that the adoption of healthier lifestyles can reduce the suffering, disability, and economic burden imposed by illness and extend life expectancy in West Virginia and the nation.

The Behavioral Risk Factor Surveillance System (BRFSS) was established by the U.S. Centers for Disease Control and Prevention (CDC) based in Atlanta in order to permit states to determine the prevalence of certain health risk factors and health conditions among their adult populations. West Virginia, through the West Virginia Bureau for Public Health (WVBPH) of the West Virginia Department of Health and Human Resources, became 1 of the 15 initial participants in 1984. Since then, the system has expanded to include all 50 states, the District of Columbia, Guam, Puerto Rico, and the Virgin Islands.

The technique of interviewing a random sample of state residents by telephone offers quality control advantages and is a faster, more cost-effective way of obtaining this information than in-person interviews. Over time, trends that occur in risk factors can be monitored. Participation in the BRFSS has the additional benefit of permitting states to compare their data with estimates derived using the same methodologies. The data can be used by health planners to identify high-risk groups, establish health policy and priorities, and monitor the impact of health promotion efforts.

Eighteen reports have been published by the WVBPH presenting survey results of the state's participation in the BRFSS since 1984. This report focuses on the 2007 and 2008 risk factor prevalence estimates and compares them to the years 1984 through 2006. Table I.1 on the following page shows topics that have been included in the last 11 years of surveillance, many of which are examined in the present report.

**Table I.1: Topics administered in the survey: WVBRFSS, 1998-2008**

Topic	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Seatbelt nonuse	x	x			x						x
Hypertension		x		x	x	x		x		x	
Cholesterol		x		x	x	x		x		x	
Leisure-time physical activity	x		x	x	x	x	x	x	x	x	x
Obesity	x	x	x	x	x	x	x	x	x	x	x
Cigarette use	x	x	x	x	x	x	x	x	x	x	x
Smokeless tobacco use	x	x	x	x	x	x	x				x
Alcohol consumption		x		x	x	x	x	x	x	x	x
Weight control	x		x			x					
Fruits & vegetables	x		x		x	x		x		x	
Diabetes	x	x	x	x	x	x	x	x	x	x	x
Routine checkup	x	x	x					x	x	x	x
Breast cancer screening	x	x	x		x		x		x		x
Cervical cancer screening	x	x	x		x		x		x		x
Prostate cancer screening				x	x		x		x		x
Excess sun exposure		x			x	x	x				
AIDS/HIV	x	x	x	x	x	x	x	x	x	x	x
Bicycle helmets, smoke alarms		x									
Immunization	x	x		x	x	x	x	x	x	x	x
Health insurance	x	x	x	x	x	x	x	x	x	x	x
Health status	x	x	x	x	x	x	x	x	x	x	x
Colorectal cancer screening		x		x	x		x		x		x
Oral health		x	x		x		x		x		x
Emotional support/Life satisfaction								x	x	x	x
Firearm ownership				x	x		x				
Asthma			x	x	x	x	x	x	x	x	x
Born / Years in WV								x			
Disability				x		x	x	x	x	x	x
Cardiovascular disease		x	x	x	x	x	x	x	x	x	x
Veteran status							x	x	x		
Osteoporosis	x	x					x				x
Arthritis		x		x		x	x	x		x	
Intimate partner violence									x	x	
Visual impairment and access to eye care										x	
Sexual violence											x
Falls											x
Drinking and driving											x
HPV vaccine											x

## METHODOLOGY

The survey is conducted by the method known as Computer Assisted Telephone Interviewing (CATI) and represents a collaborative effort between the WVBPH and CDC. The Bureau provides telephones, office space, interviewers, and supervision of the data collection. Financial assistance, a standardized set of core questions and survey protocols, computer-assisted telephone interviewing software, data processing services, and analytic consultation are provided by CDC.

A prepared introductory statement and the core questions were developed and tested in the field by CDC. The interviews take approximately 15-20 minutes. In addition to behavioral risk factors and certain health conditions, they cover standard demographic characteristics and selected preventive health practices. A very limited number of questions of topical interest may be added by individual states to the survey.

Phone calls and interviews are conducted by the WVBPH for approximately a two- to three-week period each month. The monthly interview schedule reduces the possibility of bias because of seasonal variations in certain lifestyles. To assure maximum response rates, calls are made weekdays from noon to 9:00 p.m., Saturdays from 10:00 a.m. to 7:00 p.m., and Sundays from 2:00 p.m. to 6:00 p.m.

### SAMPLE SELECTION

According to figures from the 2000 U.S. Census, 95.3% of West Virginia households have telephones, compared to 97.6% of households in the United States. The sample was selected by random digit dialing (RDD). Telephone directories are not relied upon since they do not include unlisted or new numbers. From 1984 through 1998, sampling was conducted in a multistage cluster design based on the Mitofsky-Waksberg Sampling Method for Random Digit Dialing. Since 1999, the sampling method known as Disproportionate Stratified Sampling (DSS) has been used. Both methods eliminate many unassigned and business phone numbers from the selection process.

CDC provides banks of telephone numbers that are presumed to contain either more household numbers (higher-density stratum) or fewer household numbers (lower-density stratum). The higher-density stratum is sampled at a higher rate than the lower-density stratum. In 2004-2005, the higher-density stratum consisted of banks of listed numbers while the lower-density stratum consisted of banks of unlisted numbers that contained at least one residential number. The higher-density stratum was sampled at a rate of 1.5 to 1 compared to the lower-density stratum. The data ultimately were weighted to account for differences in selection probability. Calls were made until each number resulted in a completed interview or a refusal or was disqualified. A number was disqualified if it was nonresidential or nonworking, if there was no eligible respondent available during the survey, if the selected respondent was unable to communicate, or if the number had been called at least 15 times without success (encompassing a minimum of three attempts each during afternoons, evenings, and weekends). Within each household, the actual respondent was chosen randomly to avoid possible biases related to the time of day and household telephone answering preferences. Since the number of adult residents and the number of telephone lines may differ from household to household, resulting in different probabilities of being selected, data were weighted to compensate for this bias. Tables M.1 and M.2 on the following pages show the results for all the telephone numbers attempted in obtaining 4,445 interviews in 2007 and 4,168 interviews in 2008.

**Table M.1: Disposition of telephone numbers in the sample: WVBRFSS, 2007**

Disposition	Number	Percent
Completed interview.....	4,275	21.96
Partially completed interview.....	170	0.87
Terminated within questionnaire <50% finished ...	142	0.73
Refusal after respondent selection.....	898	4.61
Selected respondent never reached or was reached but did not begin interview during interviewing period.....	238	1.22
Selected respondent away from residence during the entire interviewing period.....	143	0.73
Language problem after respondent selection.....	7	0.04
Selected respondent physically or mentally unable to complete an interview during the entire interviewing period.....	140	0.72
Hang up or termination after number of adults recorded but before respondent selection, explicit refusal.....	15	0.08
Household contact after number of adults recorded but before respondent selection.....	1	0.01
Household members away from residence during entire interviewing period.....	41	0.21
Hang up or termination, housing unit, unknown if eligible respondent.....	616	3.16
Household contact, eligibility undetermined.....	34	0.17
Language problem before respondent selection.....	4	0.02
Physical or mental impairment before respondent selection.....	22	0.11
Hang up or termination, unknown if private residence.....	1,534	7.88
Contacted, unknown if private residence.....	61	0.31
Telephone answering device, message confirms private residential status.....	255	1.31
Telecommunication technological barrier (such as a call blocking message), message confirms private residence.....	25	0.13
Telephone answering device, not sure if private residence.....	339	1.74
Telecommunication technological barrier, not sure if private residence.....	67	0.34
Telephone number changed status from household or possible household to nonworking during the interviewing period.....	182	0.93
No answer.....	780	4.01
Busy.....	77	0.40
Out-of-state number.....	2	0.01
Household, no eligible respondent.....	9	0.05
Not a private residence.....	2,253	11.57
Dedicated fax/data/modem line with no human contact.....	424	2.18
Cell phone.....	58	0.03
Fast busy.....	46	0.24
Nonworking/disconnected number.....	6,612	33.96
Total.....	19,470	100.00

**Table M.2: Disposition of telephone numbers in the sample: WVBRFSS, 2008**

Disposition	Number	Percent
Completed interview.....	4,144	21.19
Partially completed interview.....	24	0.12
Terminated within questionnaire <50% finished .....	92	0.47
Refusal after respondent selection.....	833	4.25
Selected respondent never reached or was reached but did not begin interview during interviewing period.....	187	0.95
Selected respondent away from residence during the entire interviewing period.....	93	0.47
Language problem after respondent selection.....	5	0.03
Selected respondent physically or mentally unable to complete an interview during the entire interviewing period.....	181	0.92
Hang up or termination after number of adults recorded but before respondent selection, explicit refusal.....	16	0.08
Household members away from residence during entire interviewing period.....	31	0.16
Hang up or termination, housing unit, unknown if eligible respondent.....	629	3.21
Household contact, eligibility undetermined.....	58	0.30
Language problem before respondent selection.....	9	0.05
Physical or mental impairment before respondent selection.....	21	0.11
Hang up or termination, unknown if private residence.....	1,471	7.50
Contacted, unknown if private residence.....	59	0.30
Telephone answering device, message confirms private residential status.....	253	1.29
Telecommunication technological barrier (such as a call blocking message), message confirms private residence.....	28	0.14
Telephone answering device, not sure if private residence.....	449	2.29
Telecommunication technological barrier, not sure if private residence.....	62	0.32
Telephone number changed status from household or possible household to nonworking during the interviewing period.....	229	1.17
No answer.....	705	3.59
Busy.....	55	0.28
Out-of-state number.....	3	0.02
Household, no eligible respondent.....	10	0.05
Not a private residence.....	2,287	11.66
Dedicated fax/data/modem line with no human contact.....	393	2.00
Cell phone.....	87	0.44
Fast busy.....	82	0.42
Nonworking/disconnected number.....	7,124	36.31
Total.....	19,620	100.00

## QUALITY CONTROL

The degree to which completed interviews are obtained from among the telephone numbers selected for the sample can be shown numerically by response rates. A higher response rate indicates a lower potential for bias in the data. A discussion of response rates and of various sources of statistical bias can be found in CDC's *Behavioral Risk Factor Surveillance System 2005 Year-to-Date Data Quality Handbook*. While there is no definitive formula for response rate, three primary estimates are most useful for the BRFSS:

**CASRO Rate** uses a response rate formula<sup>1</sup> developed by the Council of American Survey Research Organizations (CASRO). The resulting estimate reflects telephone sampling efficiency and the degree of cooperation among eligible persons who were contacted. The formula assumes that numbers that are never contacted contain the same percentage of eligible households as the records whose eligibility status is known. Quality control guidelines by CDC suggest a minimum acceptable value of 40%. West Virginia's CASRO rate was 59% in 2007 and 63% in 2008.

**Overall Response Rate** is a conservative response rate<sup>2</sup> that includes a higher percentage of all households in the denominator. Quality control guidelines by CDC suggest a minimum acceptable value of 30%. West Virginia's overall response rate was 51% in 2007 and 49% in 2008.

**Cooperation Rate** is a calculation<sup>3</sup> that is not affected by differences in telephone sampling efficiency. It is the proportion of all cases interviewed of all eligible units that were actually contacted. Non-contacts are excluded from the denominator. This rate is based on contacts with households containing an eligible respondent. The denominator of the rate includes completed interviews plus the number of non-interviews that involve the identification of and contact with an eligible respondent. Quality control guidelines by CDC suggest a minimum acceptable value of 65%. West Virginia's cooperation rate was 80% in 2007 and 80% in 2008.

The survey results were edited daily to assure proper completion. For verification, call backs were completed randomly to confirm that interviews had been conducted as indicated. After all phone numbers received a final disposition each month, the data were edited to check for entries that were invalid or inconsistent with other entries. Data also were checked for answers that were outside the expected range of values, such as extreme values for height, weight, exercise times, or alcohol consumption. Once all of the data were corrected or verified as correct, the monthly datasets were submitted electronically to CDC. An annual analysis of the data is provided to the state by CDC.

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<sup>1</sup> CASRO rate = 
$$\frac{\text{Completed Interviews}}{\text{Known Eligibles} + [(\text{Known Eligibles} / \{\text{Known Eligibles} \& \text{Ineligibles}\}) \times (\text{Unknowns})]}$$

<sup>2</sup> Overall response rate = 
$$\frac{\text{Completed Interviews}}{\text{Eligible Households}}$$

<sup>3</sup> Cooperation rate = 
$$\frac{\text{Completed Interviews}}{\text{Completed Interviews} + \text{Terminated Before Completion} + \text{Refusals} + \text{Unable to Communicate}}$$

## DEMOGRAPHIC CHARACTERISTICS OF SAMPLE AND POPULATION

The demographic characteristics of the samples in 2007 and 2008, both unweighted and weighted to the population, are presented in Tables M.3 and M.4. Data were weighted by the census age and sex distribution in order to more accurately estimate the actual prevalence of behavioral risk factors in the adult population of West Virginia.

**Table M.3: Demographic summary: WVBRFSS, 2007**

Demographic characteristic	Number of Interviews	Percent of Unweighted Sample	Percent of Weighted Sample <sup>a</sup>
<b>Total</b>	<b>4,445</b>	<b>100.0</b>	<b>100.0</b>
<u>Sex</u>			
Male	1,763	39.7	48.4
Female	2,682	60.3	51.6
<u>Age</u>			
18-24	163	3.7	11.8
25-34	475	10.7	15.8
35-44	647	14.5	16.8
45-54	880	19.8	19.2
55-64	965	21.7	16.3
65+	1,289	29.0	20.0
Unknown	26	0.6	
<u>Education</u>			
<12 Years	687	15.4	14.2
12 Years	1,780	40.0	41.2
13-15 Years	1,032	23.2	24.3
16+ Years	941	21.2	20.3
Unknown	5	0.1	
<u>Household Income</u>			
<\$15,000	628	14.1	12.9
\$15,000-\$24,999	827	18.6	19.8
\$25,000-\$34,999	549	12.3	13.8
\$35,000-\$49,999	648	14.6	16.9
\$50,000-\$74,999	620	13.9	17.7
\$75,000+	618	13.9	18.8
Unknown	555	12.5	

a. Population weight provided by CDC. Weighted to 2007 age and sex postcensus estimates. Not weighted to education or income level. Unknown values for age were replaced by imputed ages for weighting purposes only.

**Table M.4: Demographic summary: WVBRFSS, 2008**

Demographic characteristic	Number of Interviews	Percent of Unweighted Sample	Percent of Weighted Sample <sup>b</sup>
<b>Total</b>	<b>4,168</b>	<b>100.0</b>	<b>100.0</b>
<u>Sex</u>			
Male	1,583	38.0	48.4
Female	2,585	62.0	51.6
<u>Age</u>			
18-24	137	3.3	11.6
25-34	405	9.7	16.1
35-44	583	14.0	16.7
45-54	838	20.1	19.0
55-64	979	23.5	16.5
65+	1,204	28.9	20.0
Unknown	22	0.5	
<u>Education</u>			
<12 Years	617	14.8	14.3
12 Years	1,669	40.0	40.4
13-15 Years	965	23.1	23.8
16+ Years	908	21.8	21.5
Unknown	9	0.2	
<u>Household Income</u>			
<\$15,000	550	13.2	11.5
\$15,000-\$24,999	755	18.1	19.2
\$25,000-\$34,999	521	12.5	13.9
\$35,000-\$49,999	592	14.2	17.4
\$50,000-\$74,999	575	13.8	18.0
\$75,000+	601	14.4	20.0
Unknown	574	13.8	

b. Population weight provided by CDC. Weighted to 2008 age and sex postcensus estimates. Not weighted to education or income level. Unknown values for age were replaced by imputed ages for weighting purposes only.

## LIMITATIONS

The target population consists of civilian, noninstitutionalized persons 18 years of age and older who reside in households with telephones. Some questions in the questionnaire also pertain to children who live in such households. State residents who do not fit the target population are not represented in prevalence estimates.

Self-reported behavior obtained by telephone must be interpreted with caution. The validity of survey results depends on the accuracy of the responses given by the persons interviewed. This may be affected by the ability to recall past behavior. For example, individuals may not accurately recall blood pressure or cholesterol levels. In addition, respondents may have a tendency to understate behaviors known to be unhealthy, socially unacceptable, or illegal. These biases may vary depending on the specific risk factor.

Other sources of bias may result from greater difficulty in contacting some persons, from higher refusal rates, or from lower telephone coverage. Given the possibility that persons not interviewed for these reasons may behave differently from the general population, estimates for the population based on the survey sample may be biased. Weighting the data by age and sex distribution is done in order to correct for over- or underrepresentation of these groups.

Finally, breaking down the data into smaller categories decreases the sample size of the individual strata, thereby decreasing the power to determine statistically significant differences. Prevalence rates based on denominators of fewer than 50 are considered statistically unreliable.

## **ESTIMATES, CONFIDENCE INTERVALS, SIGNIFICANCE, AND RELIABILITY**

The prevalence rates presented in this report are derived from surveying a sample of adults rather than all adults in the population; therefore, the rates are estimates of the true values. For this reason, estimates are presented together with their associated confidence intervals. A confidence interval is a range of values around an estimate, which reflects sampling error and represents the uncertainty of the estimate. This report presents 95% confidence intervals (95% CI)<sup>1</sup>. Therefore, we can be 95% confident that the confidence interval contains the true value that we are estimating.

Significant is the term used in this report to describe prevalence estimates that have been tested and found to be significantly different. Statistically significant differences between estimates are traditionally determined using statistical tests such as a t-test or chi-squared test. However, when comparing estimates from surveys with a large number of respondents, such as the BRFSS, these statistical tests can indicate statistically significant differences even when there are only small variations in prevalence. This method would label most of the estimate comparisons in this report as significantly different. Therefore, this report uses the following more conservative method for determining significance. Two prevalence estimates are said to be “significantly” different when the 95% confidence intervals (CIs) associated with each of the estimates do not overlap. In other words, it can be stated with 95% certainty that the difference found between the two prevalence estimates is not a random occurrence. Although this is not the “classical” statistical test of differences, it is a better method of highlighting the BRFSS results important to the design of effective and efficient health promotion interventions. Identifying differences as significant by this method targets the characteristics most strongly associated with a particular health condition or risk behavior, and directs attention to the largest changes in prevalence over time. Adjectives such as slight, minor, and little are used in this report to describe notable differences that are not considered significant because the confidence intervals do overlap.

Reliability refers to the precision of an estimate. If an estimate is termed reliable, there is confidence that the same, or a very similar, estimate would be obtained if the survey were to be repeated within the same time period. Estimates that are determined to be unreliable may not reflect the true prevalence; therefore, they should be reported and interpreted with caution. Throughout this report, unreliable estimates are noted with this message: “Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.” Based on CDC recommendations, estimates in this report were termed unreliable if any of the three following conditions were met:

- 1) The estimate is based on responses from fewer than 50 respondents.
- 2) The 95% confidence interval of the estimate has a width or range greater than 20 (e.g., 95% CI = 10.0-30.5).
- 3) The estimate has a relative standard error (RSE) of 30.0% or higher. The RSE is obtained by dividing the standard error of the estimate by the estimate itself. It is calculated by the SAS software.

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<sup>1</sup> Confidence intervals were derived from the `surveyfreq` procedure in SAS, a commonly used statistical software package. This procedure estimates sample variances (which are used to calculate confidence intervals) for complex sample designs.

## COUNTY-LEVEL DATA

County prevalence rates were calculated by using multiple years of aggregated BRFSS data. The data were reweighted to be representative of the 2000 age and sex population distribution by county. Aggregated sample sizes were large enough for 24 of the 55 counties to stand alone, that is, to yield individual county prevalence calculations. The data from the remaining 31 counties that had sample sizes too small to stand alone were combined into 12 groupings of counties. The aim was to arrive at as many groups of contiguous counties as possible, provided that the groups' sample sizes were sufficiently large for statistical analysis. Similarity in poverty level was an additional factor in deciding which counties to group together. The 12 groups of counties plus the 24 stand-alone counties resulted in 36 geographical entities (see Appendix K).

In prior reports, the county prevalence estimates were compared to a middle-year United States prevalence estimate. County maps were included that classified counties according to the degree of difference from the United States prevalence: significantly higher, higher, lower, or significantly lower.<sup>4</sup> In this report, county estimates were compared to the total West Virginia estimate for the same time period. This method better identifies disparities between counties. It also clearly identifies counties in need of health promotion interventions. *The county maps included in this report classify counties according to the degree of difference from the West Virginia prevalence, not the United States prevalence.* County estimates, as well as county classifications compared to both West Virginia and the United States, can be found in Appendix L. Extensive county data also can be found in the WVBPB publication *West Virginia County Health Profiles, 2004* available online at <http://www.wvdhhr.org/bph/oehp/hsc/profiles2004/default.htm>.

Unlike previous reports, this report does not include county prevalence estimates of heavy drinking. Based on the reliability standards discussed above, a majority of the county estimates were determined to be unreliable, primarily attributable to the low statewide prevalence of this risk factor. Use caution when interpreting county estimates of heavy drinking published in earlier reports. It is likely that many of the estimates are unreliable.

## PRESENTATION

In the sections that follow, the prevalence data are presented in a variety of ways, including by state rank, yearly state and national prevalence, and demographic variables. It should be stressed that the risk factor prevalence estimates for the demographic variables (age, sex, education, and income) show the percentages of persons **within the group** – not in the total survey sample – who report the behavior being examined. This method of presenting risk factor prevalence facilitates identification of at-risk populations for health promotion efforts. Each table shows the number of respondents (# Resp.) who were asked the question, the weighted prevalence estimate (%), and the 95% confidence interval for the prevalence (95% CI).

Prevalence estimates are calculated by excluding unknown responses from the denominators. Consequently, estimates may be slightly higher than would have been the case had the unknown responses been included. In editions of this report before 2003, many estimates representing the years 1984 through 1996 were calculated by including unknown responses. In the present report, all such rates have been re-calculated to exclude unknown responses. Therefore, discrepancies may exist between the time trends and appendixes in this report and those in older editions.

The risk factor sections include West Virginia's rank among the BRFSS participants. For example, if hypertension-related questions were administered by all 54 BRFSS participants, ranking 1<sup>st</sup> in hypertension would mean having the highest prevalence of hypertension while ranking 54<sup>th</sup> would mean

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<sup>4</sup> Significance can be affected by both prevalence level and county sample size.

having the lowest prevalence. Some questions are not asked by all BRFSS participants. In these cases, the rankings should be interpreted with caution, as they may be different if information were available from all participants. In addition, readers should note that differences between states often are less than one percentage point and that statistical significance was not tested when determining rankings. The rates and rankings were calculated by Health Statistics Center staff. State and county prevalence estimates and rankings for many risk factors are presented in Appendixes A and O.

## CHAPTER 1: HEALTH STATUS

### Fair or Poor General Health in 2007 and 2008

<b>Definition</b>	Responding “Fair” or “Poor” to the following question: “Would you say that in general your health is: Excellent, Very Good, Good, Fair, or Poor?”
<b>Prevalence</b>	<b>WV: 21.6%</b> (95% CI: 20.2-22.9) in 2007; <b>24.1%</b> (95% CI: 22.6-25.6) in 2008. <b>US: 16.7%</b> (95% CI: 16.4-17.0) in 2007; <b>16.3%</b> (95% CI: 16.1-16.6) in 2008. West Virginia ranked 3 <sup>rd</sup> highest among 54 BRFSS participants in 2007 and 2 <sup>nd</sup> highest among 54 BRFSS participants in 2008.
<b>Time Trends</b>	From 1993 through 2008, the prevalence of fair or poor general health has been fluctuating around a slowly increasing trend line.
<b>Gender</b>	<b>Men:</b> 21.9% (95% CI: 19.7-24.0) in 2007; 23.1% (95% CI: 20.8-25.4) in 2008. <b>Women:</b> 21.3% (95% CI: 19.6-22.9) in 2007; 25.0% (95% CI: 23.1-26.9) in 2008. There was little difference in how frequently men and women reported a fair or poor general health status.
<b>Age</b>	Reports of fair or poor health increased significantly with age. The 2007 prevalence ranged from a low of 8.2% among the youngest adults to a high of 37.0% among the oldest. Variation by age was similar in 2008, with a prevalence of 7.3% among 18-24 year olds increasing to a high of 37.4% among those 65 and older.
<b>Education</b>	Adults with less than a high school education carried the greatest risk due to fair or poor health, with a prevalence of nearly 50% in both 2007 and 2008. Those with more education had a much lower prevalence, with the risk for college graduates limited to the 8%-10% range. Differences were significant between every educational bracket in both years.
<b>Household Income</b>	Fair or poor health was experienced by approximately 1 of every 2 adults in the lowest income group (less than \$15,000 annually) for both 2007 and 2008. Significant declines in prevalence occurred for those in the \$25,000 to \$34,999 bracket (approximately 1 in 3) and for adults with the highest income of \$75,000 or more (approximately 1 in 15).

#### QUICK STATS

- West Virginia adults who reported their general health to be good, very good, or excellent represented 78% of the population in 2007 and 76% in 2008.
- Due to poor physical or mental health, approximately 11% of adults in both years were unable to perform their usual activities, such as self-care, work, or recreation, every day during the past 30 days.

**Table 1.1 Fair or poor health by demographic characteristics: WVBRFSS, 2007**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,754	<b>21.9</b>	19.7-24.0	2,677	<b>21.3</b>	19.6-22.9	4,431	<b>21.6</b>	20.2-22.9
<b>Age</b>									
18-24	72	<b>*8.7</b>	1.7-15.7	91	<b>*7.7</b>	2.5-12.9	163	<b>8.2</b>	3.8-12.6
25-34	180	<b>*6.1</b>	1.8-10.4	294	<b>8.1</b>	4.8-11.4	474	<b>7.1</b>	4.4-9.8
35-44	264	<b>19.2</b>	14.1-24.3	383	<b>13.1</b>	9.6-16.6	647	<b>16.1</b>	13.0-19.2
45-54	370	<b>22.9</b>	18.3-27.5	508	<b>23.0</b>	19.0-27.0	878	<b>23.0</b>	20.0-26.0
55-64	412	<b>32.3</b>	27.5-37.2	551	<b>26.4</b>	22.5-30.3	963	<b>29.3</b>	26.2-32.5
65+	446	<b>36.0</b>	31.2-40.9	834	<b>37.6</b>	34.0-41.2	1,280	<b>37.0</b>	34.1-39.9
<b>Education</b>									
Less than H.S.	277	<b>51.8</b>	44.4-59.2	405	<b>44.9</b>	39.2-50.6	682	<b>48.4</b>	43.7-53.1
H.S. or G.E.D.	718	<b>20.8</b>	17.6-24.1	1,057	<b>23.1</b>	20.3-25.8	1,775	<b>21.9</b>	19.8-24.1
Some Post-H.S.	380	<b>16.7</b>	12.7-20.7	652	<b>15.7</b>	12.7-18.7	1,032	<b>16.2</b>	13.7-18.6
College Graduate	377	<b>7.6</b>	4.9-10.3	560	<b>9.3</b>	6.9-11.8	937	<b>8.5</b>	6.7-10.3
<b>Income</b>									
Less than \$15,000	194	<b>59.7</b>	51.3-68.0	431	<b>46.5</b>	40.9-52.2	625	<b>51.8</b>	47.0-56.6
\$15,000- 24,999	308	<b>28.2</b>	22.6-33.7	517	<b>31.5</b>	26.9-36.0	825	<b>29.9</b>	26.4-33.5
\$25,000- 34,999	235	<b>24.1</b>	18.0-30.3	313	<b>20.9</b>	15.7-26.0	548	<b>22.5</b>	18.5-26.6
\$35,000- 49,999	260	<b>14.6</b>	10.2-19.0	386	<b>13.0</b>	9.6-16.4	646	<b>13.7</b>	11.0-16.5
\$50,000- 74,999	279	<b>8.9</b>	5.6-12.3	341	<b>8.5</b>	5.2-11.8	620	<b>8.7</b>	6.4-11.1
\$75,000+	313	<b>9.5</b>	5.0-13.9	303	<b>5.5</b>	2.9-8.1	616	<b>7.8</b>	5.0-10.7

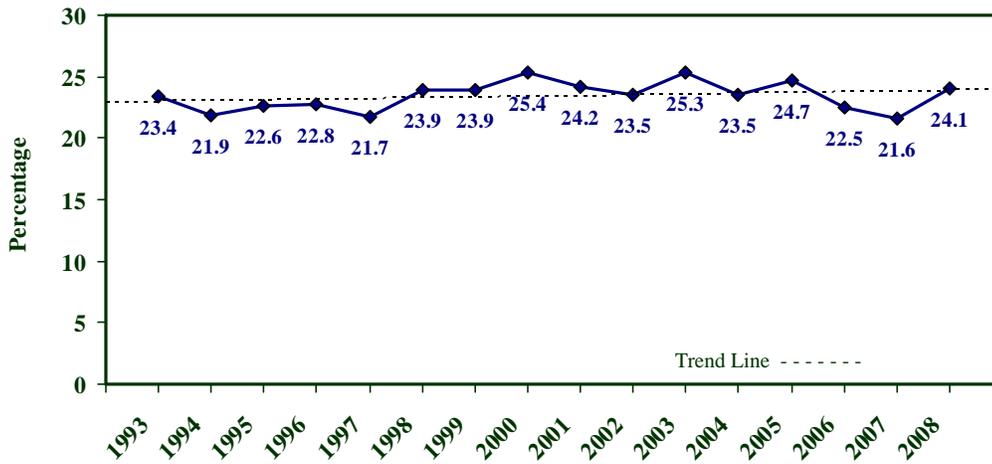
\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Table 1.2 Fair or poor health by demographic characteristics: WVBRFSS, 2008**

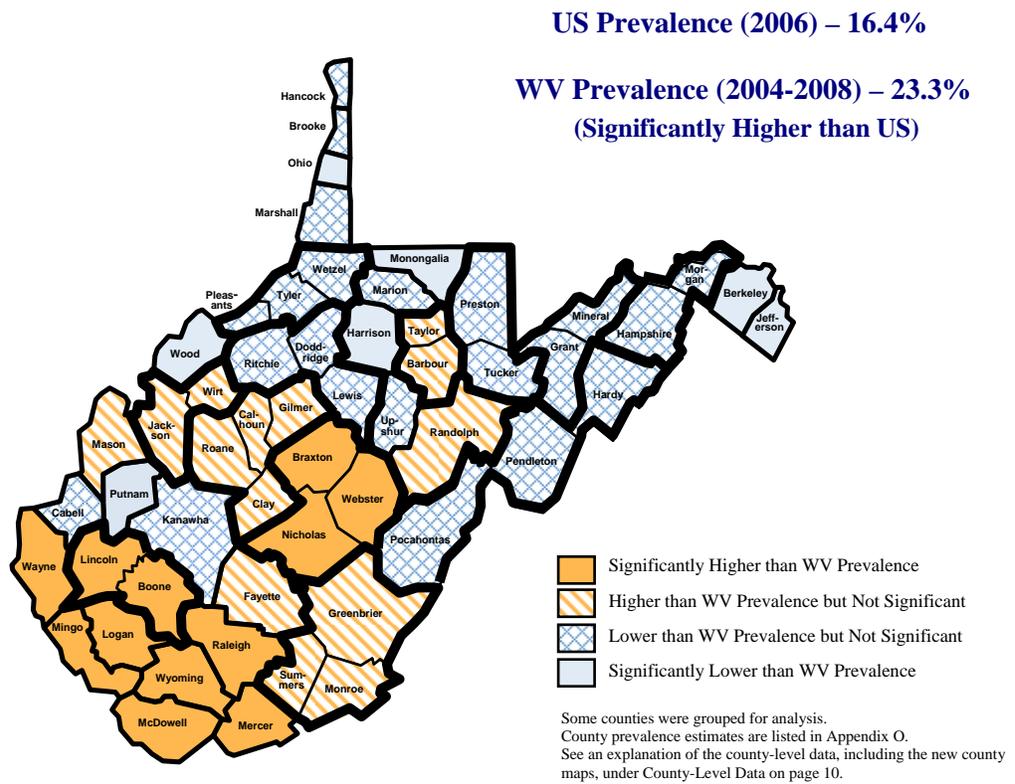
Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,576	<b>23.1</b>	20.8-25.4	2,576	<b>25.0</b>	23.1-26.9	4,152	<b>24.1</b>	22.6-25.6
<b>Age</b>									
18-24	61	<b>*4.3</b>	0.0-9.6	76	<b>*10.5</b>	3.2-17.7	137	<b>*7.3</b>	2.8-11.8
25-34	172	<b>13.2</b>	7.9-18.5	231	<b>13.6</b>	8.7-18.5	403	<b>13.4</b>	9.8-17.0
35-44	235	<b>16.2</b>	11.1-21.2	348	<b>18.1</b>	13.7-22.5	583	<b>17.2</b>	13.8-20.5
45-54	335	<b>26.7</b>	21.5-31.9	501	<b>24.4</b>	20.3-28.5	836	<b>25.5</b>	22.2-28.8
55-64	378	<b>36.3</b>	31.1-41.6	598	<b>35.2</b>	31.0-39.3	976	<b>35.7</b>	32.4-39.1
65+	391	<b>36.4</b>	31.2-41.5	806	<b>38.2</b>	34.6-41.8	1,197	<b>37.4</b>	34.4-40.4
<b>Education</b>									
Less than H.S.	238	<b>44.3</b>	36.7-51.9	376	<b>49.6</b>	43.1-56.1	614	<b>46.9</b>	41.9-51.9
H.S. or G.E.D.	631	<b>25.3</b>	21.5-29.2	1,031	<b>27.5</b>	24.3-30.8	1,662	<b>26.5</b>	24.0-29.0
Some Post-H.S.	340	<b>18.1</b>	13.9-22.3	620	<b>20.3</b>	16.8-23.9	960	<b>19.3</b>	16.6-22.0
College Graduate	363	<b>9.5</b>	6.2-12.8	545	<b>9.3</b>	6.8-11.8	908	<b>9.4</b>	7.3-11.5
<b>Income</b>									
Less than \$15,000	154	<b>59.0</b>	50.1-67.9	392	<b>49.8</b>	43.4-56.2	546	<b>53.1</b>	47.9-58.4
\$15,000- 24,999	244	<b>33.6</b>	26.9-40.2	511	<b>36.5</b>	31.6-41.5	755	<b>35.2</b>	31.2-39.3
\$25,000- 34,999	202	<b>21.5</b>	15.5-27.4	319	<b>21.4</b>	16.4-26.5	521	<b>21.4</b>	17.6-25.3
\$35,000- 49,999	254	<b>20.3</b>	14.9-25.6	337	<b>15.0</b>	10.9-19.1	591	<b>17.7</b>	14.3-21.0
\$50,000- 74,999	244	<b>14.8</b>	9.5-20.1	331	<b>13.9</b>	9.5-18.2	575	<b>14.4</b>	10.9-17.8
\$75,000+	290	<b>5.0</b>	2.5-7.5	311	<b>5.7</b>	3.2-8.3	601	<b>5.3</b>	3.5-7.1

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Figure 1.1 Fair or poor health by year: WVBRFSS, 1993-2008**



**Figure 1.2 Fair or poor health by county: WVBRFSS, 2004-2008**



## CHAPTER 2: HEALTH CARE ACCESS

### No Health Care Coverage (among Adults 18 to 64) in 2007 and 2008

<b>Definition</b>	Responding “No” to the following question: “Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?” The results reported for this section have been limited to adults aged 18-64.
<b>Prevalence</b>	<b>WV: 20.6%</b> (95% CI: 18.8-22.5) in 2007; <b>19.8%</b> (95% CI: 17.9-21.8) in 2008. <b>US: 18.0%</b> (95% CI: 17.7-18.4) in 2007; <b>17.9%</b> (95% CI: 17.6-18.3) in 2008. West Virginia ranked 13 <sup>th</sup> highest among 54 BRFSS participants in 2007 and 17 <sup>th</sup> highest among 54 BRFSS participants in 2008.
<b>Time Trends</b>	From 1993 through 2008, the proportion of adults with no health care coverage has remained stable.
<b>Gender</b>	<b>Men:</b> 21.3% (95% CI: 18.3-24.2) in 2007; 20.4% (95% CI: 17.4-23.5) in 2008. <b>Women:</b> 20.0% (95% CI: 17.7-22.3) in 2007; 19.2% (95% CI: 16.8-21.6) in 2008. Overall, the lack of health care coverage in this group of working-age adults was similar among men and women.
<b>Age</b>	Lack of health care coverage was significantly more prevalent among those aged 18-44 compared with those aged 45 and older. This age difference was more pronounced among men.
<b>Education</b>	Adults with the least education were significantly more at risk for no health care coverage than those with any level of education beyond high school. Approximately 1 in 3 adults without a high school diploma lacked health care, while the rate for college graduates was 5-7%.
<b>Household Income</b>	Lack of health care access was significantly more common among lower income groups. About 40% of adults with household incomes of less than \$25,000 had no health care coverage. In contrast, adults living in households with incomes of \$50,000 and above had a risk in the much lower 3% to 7% range.

#### WV HEALTHY PEOPLE 2010 OBJECTIVES

<b>Objective 1.1a</b>	Increase the proportion of persons aged 18-64 with health insurance coverage to 90%. (Baseline: 79.4% in 1998; Current: 80.2% in 2008)
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**Table 2.1 No health care coverage among adults aged 18-64 by demographic characteristics: WVBRFSS, 2007**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,300	<b>21.3</b>	18.3-24.2	1,827	<b>20.0</b>	17.7-22.3	3,127	<b>20.6</b>	18.8-22.5
<b>Age</b>									
18-24	70	<b>*36.7</b>	24.4-49.0	91	<b>26.6</b>	17.0-36.3	161	<b>31.8</b>	23.8-39.7
25-34	181	<b>29.3</b>	21.9-36.8	294	<b>25.2</b>	19.7-30.8	475	<b>27.3</b>	22.7-32.0
35-44	264	<b>24.0</b>	18.4-29.7	382	<b>19.6</b>	15.1-24.0	646	<b>21.8</b>	18.2-25.4
45-54	372	<b>12.5</b>	9.0-16.1	508	<b>17.2</b>	13.6-20.7	880	<b>14.9</b>	12.4-17.5
55-64	413	<b>9.1</b>	6.2-12.1	552	<b>14.2</b>	11.0-17.4	965	<b>11.7</b>	9.5-13.9
<b>Education</b>									
Less than H.S.	174	<b>37.6</b>	28.0-47.2	173	<b>33.6</b>	25.2-42.1	347	<b>36.0</b>	29.3-42.6
H.S. or G.E.D.	544	<b>24.9</b>	20.3-29.5	706	<b>24.7</b>	20.8-28.6	1,250	<b>24.8</b>	21.7-27.9
Some Post-H.S.	298	<b>17.4</b>	11.7-23.1	496	<b>19.5</b>	15.1-23.9	794	<b>18.5</b>	15.0-22.1
College Graduate	284	<b>6.9</b>	2.9-10.8	451	<b>7.0</b>	3.9-10.1	735	<b>7.0</b>	4.5-9.4
<b>Income</b>									
Less than \$15,000	138	<b>42.7</b>	32.8-52.6	257	<b>45.2</b>	37.9-52.6	395	<b>44.1</b>	38.1-50.1
\$15,000- 24,999	203	<b>36.4</b>	28.3-44.5	292	<b>40.6</b>	33.8-47.4	495	<b>38.6</b>	33.3-43.8
\$25,000- 34,999	160	<b>27.3</b>	18.3-36.3	211	<b>25.1</b>	17.6-32.5	371	<b>26.2</b>	20.4-32.1
\$35,000- 49,999	190	<b>16.4</b>	9.5-23.3	305	<b>8.1</b>	4.7-11.5	495	<b>11.9</b>	8.1-15.6
\$50,000- 74,999	236	<b>*8.0</b>	3.0-12.9	315	<b>6.5</b>	3.0-10.0	551	<b>7.2</b>	4.2-10.2
\$75,000+	271	<b>*6.2</b>	1.6-10.9	279	<b>*0.7</b>	0.0-1.6	550	<b>3.9</b>	1.1-6.7

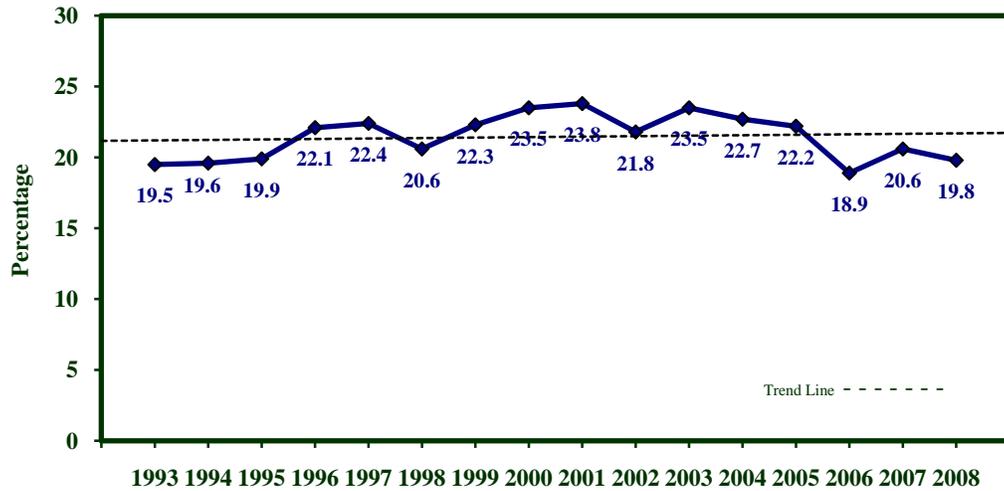
\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Table 2.2 No health care coverage among adults aged 18-64 by demographic characteristics: WVBRFSS, 2008**

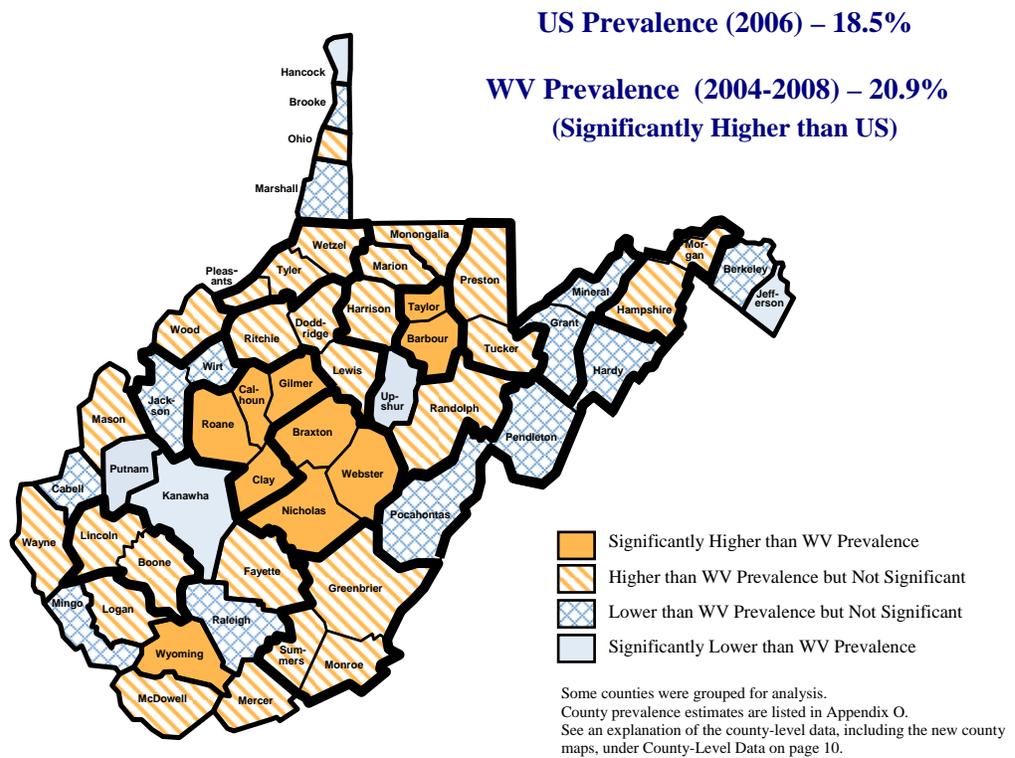
Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,182	<b>20.4</b>	17.4-23.5	1,756	<b>19.2</b>	16.8-21.6	2,938	<b>19.8</b>	17.9-21.8
<b>Age</b>									
18-24	60	<b>*35.6</b>	22.6-48.6	75	<b>*28.3</b>	17.1-39.5	135	<b>32.1</b>	23.4-40.7
25-34	172	<b>29.6</b>	22.0-37.1	232	<b>21.5</b>	15.8-27.2	404	<b>25.6</b>	20.8-30.4
35-44	235	<b>14.5</b>	9.8-19.2	347	<b>19.7</b>	15.2-24.2	582	<b>17.1</b>	13.8-20.4
45-54	336	<b>15.7</b>	11.3-20.0	502	<b>15.6</b>	12.1-19.2	838	<b>15.6</b>	12.8-18.5
55-64	379	<b>12.0</b>	8.5-15.5	600	<b>14.6</b>	11.3-17.8	979	<b>13.3</b>	10.9-15.7
<b>Education</b>									
Less than H.S.	152	<b>*39.0</b>	28.9-49.0	174	<b>35.1</b>	25.9-44.4	326	<b>37.3</b>	30.3-44.3
H.S. or G.E.D.	467	<b>22.2</b>	17.0-27.3	686	<b>24.6</b>	20.4-28.9	1,153	<b>23.4</b>	20.0-26.7
Some Post-H.S.	272	<b>21.3</b>	15.4-27.3	447	<b>18.1</b>	13.2-23.0	719	<b>19.6</b>	15.8-23.4
College Graduate	291	<b>6.0</b>	2.8-9.2	447	<b>4.4</b>	2.5-6.4	738	<b>5.2</b>	3.4-7.1
<b>Income</b>									
Less than \$15,000	106	<b>*34.8</b>	24.3-45.3	221	<b>38.7</b>	29.8-47.5	327	<b>37.2</b>	30.4-43.9
\$15,000- 24,999	158	<b>40.2</b>	30.5-49.9	292	<b>38.2</b>	30.9-45.4	450	<b>39.1</b>	33.2-45.0
\$25,000- 34,999	138	<b>*28.9</b>	18.7-39.0	209	<b>24.4</b>	17.2-31.6	347	<b>26.5</b>	20.4-32.7
\$35,000- 49,999	195	<b>14.7</b>	8.3-21.1	276	<b>11.4</b>	6.7-16.2	471	<b>13.0</b>	9.1-17.0
\$50,000- 74,999	211	<b>*6.9</b>	2.2-11.6	288	<b>*2.6</b>	0.7-4.4	499	<b>4.9</b>	2.2-7.5
\$75,000+	254	<b>*4.5</b>	0.4-8.6	288	<b>*2.1</b>	0.5-3.8	542	<b>*3.5</b>	1.0-5.9

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Figure 2.1 No health care coverage among adults aged 18-64 by year: WVBRFSS, 1993-2008**



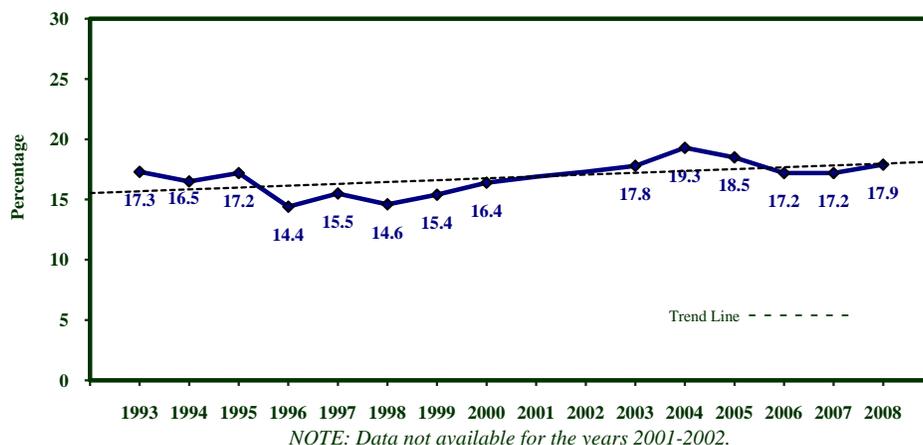
**Figure 2.2 No health care coverage among adults aged 18-64 by county: WVBRFSS, 2004-2008**



## Could Not Afford Needed Medical Care in 2007 and 2008

<b>Definition</b>	Responding “Yes” to the following question: “Was there a time in the past 12 months when you needed to see a doctor but could not because of cost?” This summary applies to both 2007 and 2008 unless stated otherwise.
<b>Prevalence</b>	<b>WV: 17.2%</b> (95% CI: 15.8-18.6) in 2007; <b>17.9%</b> (95% CI: 16.4-19.5) in 2008. <b>US: 13.5%</b> (95% CI: 13.3-13.8) in 2007; <b>14.1%</b> (95% CI: 13.8-14.3) in 2008. West Virginia ranked 7 <sup>th</sup> highest among 54 BRFSS participants in 2007 and 4 <sup>th</sup> highest among 54 BRFSS participants in 2008.
<b>Time Trends</b>	From 1993 through 2008, the percentage of adults unable to afford needed medical care slowly escalated.
<b>Gender</b>	<b>Men:</b> 16.7% (95% CI: 14.4-19.0) in 2007; 16.0% (95% CI: 13.7-18.4) in 2008. <b>Women:</b> 17.6% (95% CI: 15.9-19.3) in 2007; 19.7% (95% CI: 17.7-21.7) in 2008. The prevalence of this risk did not differ significantly between men and women overall.
<b>Age</b>	The 25-34 age group experienced the highest frequency of this risk. Those aged 65 and older were significantly less likely to forgo medical care than adults in any other age category.
<b>Education</b>	Adults with less than a high school diploma had higher rates of this risk factor than other adults in both 2007 and 2008. College graduates were significantly less likely to have problems affording needed health care than those with any lower level of education.
<b>Household Income</b>	The prevalence of this risk factor became steadily higher as household income declined. Overall, the risk was under 9% for those from the \$50,000 and higher income households in both 2007 and 2008.

**Figure 2.3 Could not afford needed medical care by year: WVBRFSS, 1993-2008**



**Table 2.3 Could not afford needed medical care in past 12 months by demographic characteristics: WVBRFSS, 2007**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,761	<b>16.7</b>	14.4-19.0	2,680	<b>17.6</b>	15.9-19.3	4,441	<b>17.2</b>	15.8-18.6
<b>Age</b>									
18-24	72	<b>*24.8</b>	13.9-35.7	91	<b>*16.7</b>	9.4-23.9	163	<b>20.8</b>	14.1-27.5
25-34	181	<b>21.5</b>	14.8-28.2	294	<b>24.6</b>	19.4-29.7	475	<b>23.0</b>	18.7-27.2
35-44	264	<b>21.3</b>	15.8-26.7	383	<b>24.4</b>	19.7-29.1	647	<b>22.9</b>	19.3-26.4
45-54	371	<b>14.2</b>	10.6-17.8	508	<b>23.3</b>	19.3-27.3	879	<b>18.9</b>	16.2-21.7
55-64	413	<b>13.9</b>	10.3-17.5	550	<b>15.4</b>	12.1-18.7	963	<b>14.7</b>	12.2-17.1
65+	451	<b>6.8</b>	4.3-9.2	838	<b>5.2</b>	3.6-6.9	1,289	<b>5.9</b>	4.5-7.3
<b>Education</b>									
Less than H.S.	277	<b>27.7</b>	20.3-35.1	408	<b>23.8</b>	18.6-29.0	685	<b>25.7</b>	21.2-30.3
H.S. or G.E.D.	722	<b>17.2</b>	13.7-20.7	1,058	<b>20.6</b>	17.8-23.5	1,780	<b>18.9</b>	16.7-21.2
Some Post-H.S.	380	<b>15.0</b>	10.4-19.6	651	<b>15.9</b>	12.7-19.1	1,031	<b>15.5</b>	12.8-18.2
College Graduate	380	<b>9.5</b>	5.8-13.2	560	<b>9.9</b>	6.9-13.0	940	<b>9.7</b>	7.4-12.1
<b>Income</b>									
Less than \$15,000	195	<b>34.6</b>	26.4-42.8	431	<b>34.6</b>	29.1-40.1	626	<b>34.6</b>	29.9-39.3
\$15,000- 24,999	310	<b>25.1</b>	19.2-31.0	516	<b>28.7</b>	23.9-33.5	826	<b>27.0</b>	23.3-30.8
\$25,000- 34,999	235	<b>19.6</b>	13.6-25.6	314	<b>24.5</b>	18.7-30.2	549	<b>22.0</b>	17.8-26.2
\$35,000- 49,999	262	<b>10.7</b>	5.8-15.7	386	<b>13.2</b>	9.3-17.1	648	<b>12.1</b>	9.0-15.2
\$50,000- 74,999	279	<b>7.1</b>	3.0-11.1	341	<b>8.3</b>	5.2-11.5	620	<b>7.7</b>	5.1-10.3
\$75,000+	314	<b>8.3</b>	3.8-12.8	304	<b>3.4</b>	1.3-5.6	618	<b>6.3</b>	3.4-9.1

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Table 2.4 Could not afford needed medical care in past 12 months by demographic characteristics: WVBRFSS, 2008**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,579	<b>16.0</b>	13.7-18.4	2,580	<b>19.7</b>	17.7-21.7	4,159	<b>17.9</b>	16.4-19.5
<b>Age</b>									
18-24	61	<b>*25.4</b>	13.8-37.1	76	<b>23.6</b>	13.8-33.3	137	<b>24.5</b>	16.9-32.2
25-34	172	<b>22.4</b>	15.7-29.0	232	<b>28.2</b>	22.1-34.4	404	<b>25.3</b>	20.7-29.8
35-44	234	<b>16.1</b>	11.1-21.2	348	<b>27.6</b>	22.5-32.8	582	<b>21.9</b>	18.3-25.6
45-54	335	<b>17.7</b>	13.2-22.2	500	<b>22.8</b>	18.8-26.8	835	<b>20.3</b>	17.3-23.3
55-64	378	<b>10.8</b>	7.5-14.2	598	<b>16.2</b>	12.9-19.5	976	<b>13.5</b>	11.2-15.9
65+	394	<b>6.0</b>	3.5-8.4	809	<b>6.5</b>	4.6-8.4	1,203	<b>6.3</b>	4.8-7.8
<b>Education</b>									
Less than H.S.	236	<b>22.3</b>	16.1-28.5	379	<b>25.4</b>	19.7-31.0	615	<b>23.8</b>	19.6-28.1
H.S. or G.E.D.	634	<b>19.6</b>	15.3-23.9	1,031	<b>22.6</b>	19.4-25.9	1,665	<b>21.2</b>	18.5-23.8
Some Post-H.S.	342	<b>13.9</b>	9.5-18.3	620	<b>20.7</b>	16.4-24.9	962	<b>17.6</b>	14.5-20.6
College Graduate	363	<b>7.3</b>	3.8-10.8	545	<b>9.2</b>	6.7-11.8	908	<b>8.3</b>	6.1-10.4
<b>Income</b>									
Less than \$15,000	155	<b>36.3</b>	27.3-45.3	395	<b>33.4</b>	27.1-39.6	550	<b>34.5</b>	29.3-39.6
\$15,000- 24,999	243	<b>22.2</b>	15.6-28.9	510	<b>31.2</b>	26.1-36.4	753	<b>27.3</b>	23.2-31.4
\$25,000- 34,999	201	<b>22.9</b>	14.9-30.8	318	<b>24.8</b>	18.7-30.8	519	<b>23.9</b>	19.0-28.8
\$35,000- 49,999	255	<b>12.7</b>	7.8-17.6	336	<b>18.1</b>	12.6-23.6	591	<b>15.4</b>	11.7-19.1
\$50,000- 74,999	243	<b>9.2</b>	4.1-14.4	330	<b>8.0</b>	4.4-11.7	573	<b>8.7</b>	5.5-11.9
\$75,000+	290	<b>*3.9</b>	1.1-6.7	311	<b>6.1</b>	3.1-9.0	601	<b>4.8</b>	2.8-6.9

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

## No Personal Doctor or Health Care Provider in 2007 and 2008

<b>Definition</b>	Responding “No” to the following question: “Do you have one (or more than one) person you think of as your personal doctor or health care provider?”
<b>Prevalence</b>	<b>WV: 21.7%</b> (95% CI: 20.0-23.3) in 2007; <b>22.0%</b> (95% CI: 20.2-23.7) in 2008. <b>US: 19.9%</b> (95% CI: 19.6-20.2) in 2007; <b>19.4%</b> (95% CI: 19.1-19.7) in 2008. West Virginia ranked 19 <sup>th</sup> highest among 54 BRFSS participants in 2007 and 16 <sup>th</sup> highest among 54 BRFSS participants in 2008.
<b>Time Trends</b>	From 2001 to 2008 the prevalence has remained fairly stable.
<b>Gender</b>	<b>Men:</b> 26.5% (95% CI: 23.8-29.2) in 2007; 27.7% (95% CI: 24.8-30.7) in 2008. <b>Women:</b> 17.1% (95% CI: 15.3-19.0) in 2007; 16.5% (95% CI: 14.6-18.5) in 2008. The risk of not having a personal doctor or health care provider was significantly higher for men than for women in both 2007 and 2008.
<b>Age</b>	The youngest age group, those aged 18-34, had the highest prevalence of this risk factor. The oldest age group (65 and older) had a relatively low risk, 7.5% and 7.2%, respectively, in 2007 and 2008.
<b>Education</b>	There was a significant difference between those with less than a high school education and those with a college education in 2007 and 2008. Those with a college education had a significantly lower prevalence for this risk factor than those without a high school education. This difference was most apparent among men in both 2007 and 2008.
<b>Household Income</b>	Household income was associated with few differences in this risk. In both 2007 and 2008, those having incomes of \$75,000 and above had a significantly lower prevalence than those with a household income of \$15,000-24,999.

### WV HEALTHY PEOPLE 2010 OBJECTIVES

<b>Objective 1.2</b>	(Developmental) Increase the proportion of persons with a personal primary care provider. (Baseline: 78.0% in 2001; Current: 78.0% in 2008)
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**Table 2.5 No personal doctor or health care provider by demographic characteristics: WVBRFSS, 2007**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,761	<b>26.5</b>	23.8-29.2	2,678	<b>17.1</b>	15.3-19.0	4,439	<b>21.7</b>	20.0-23.3
<b>Age</b>									
18-24	72	<b>*44.9</b>	32.5-57.3	91	<b>*31.9</b>	21.6-42.3	163	<b>38.6</b>	30.4-46.8
25-34	181	<b>47.3</b>	39.5-55.1	294	<b>25.1</b>	19.9-30.2	475	<b>36.3</b>	31.4-41.2
35-44	263	<b>34.5</b>	28.4-40.6	382	<b>20.8</b>	16.3-25.3	645	<b>27.6</b>	23.8-31.4
45-54	372	<b>18.0</b>	13.8-22.3	508	<b>16.2</b>	12.8-19.7	880	<b>17.1</b>	14.4-19.8
55-64	413	<b>12.8</b>	9.5-16.1	552	<b>11.7</b>	8.4-15.0	965	<b>12.2</b>	9.9-14.6
65+	450	<b>8.8</b>	6.1-11.5	835	<b>6.5</b>	4.6-8.4	1,285	<b>7.5</b>	5.9-9.1
<b>Education</b>									
Less than H.S.	278	<b>34.8</b>	27.3-42.4	406	<b>21.0</b>	15.9-26.1	684	<b>28.1</b>	23.4-32.7
H.S. or G.E.D.	721	<b>29.6</b>	25.4-33.9	1,056	<b>16.1</b>	13.1-19.1	1,777	<b>22.9</b>	20.2-25.5
Some Post-H.S.	380	<b>24.7</b>	18.9-30.4	652	<b>18.6</b>	14.7-22.4	1,032	<b>21.3</b>	18.0-24.7
College Graduate	380	<b>15.6</b>	11.3-19.9	561	<b>14.9</b>	10.9-18.9	941	<b>15.2</b>	12.3-18.2
<b>Income</b>									
Less than \$15,000	197	<b>29.6</b>	21.7-37.5	431	<b>19.8</b>	14.7-24.9	628	<b>23.8</b>	19.4-28.2
\$15,000- 24,999	310	<b>35.2</b>	28.6-41.8	515	<b>20.8</b>	16.2-25.3	825	<b>27.6</b>	23.6-31.6
\$25,000- 34,999	233	<b>28.0</b>	20.1-35.8	314	<b>21.0</b>	15.4-26.5	547	<b>24.6</b>	19.7-29.4
\$35,000- 49,999	262	<b>30.4</b>	23.3-37.4	386	<b>17.9</b>	12.9-22.9	648	<b>23.7</b>	19.4-28.0
\$50,000- 74,999	279	<b>19.4</b>	13.8-24.9	341	<b>12.6</b>	7.9-17.4	620	<b>16.0</b>	12.3-19.7
\$75,000+	314	<b>17.4</b>	11.7-23.2	304	<b>13.7</b>	8.4-18.9	618	<b>15.9</b>	11.9-19.9

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Table 2.6 No personal doctor or health care provider by demographic characteristics: WVBRFSS, 2008**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,581	<b>27.7</b>	24.8-30.7	2,583	<b>16.5</b>	14.6-18.5	4,164	<b>22.0</b>	20.2-23.7
<b>Age</b>									
18-24	61	<b>*55.5</b>	42.2-68.8	76	<b>*37.5</b>	26.2-48.9	137	<b>46.8</b>	37.8-55.9
25-34	172	<b>50.9</b>	43.0-58.8	232	<b>28.8</b>	22.7-34.8	404	<b>40.0</b>	34.8-45.2
35-44	235	<b>28.3</b>	22.2-34.4	348	<b>19.7</b>	15.0-24.5	583	<b>24.0</b>	20.1-27.9
45-54	336	<b>19.0</b>	14.6-23.4	502	<b>12.1</b>	8.7-15.5	838	<b>15.5</b>	12.7-18.2
55-64	379	<b>11.8</b>	8.5-15.2	600	<b>8.1</b>	5.8-10.4	979	<b>10.0</b>	7.9-12.0
65+	393	<b>9.7</b>	6.4-12.9	809	<b>5.5</b>	3.7-7.2	1,202	<b>7.2</b>	5.5-8.9
<b>Education</b>									
Less than H.S.	237	<b>33.1</b>	24.7-41.4	378	<b>20.2</b>	14.7-25.6	615	<b>26.6</b>	21.5-31.8
H.S. or G.E.D.	635	<b>30.2</b>	25.3-35.0	1,034	<b>18.5</b>	15.2-21.8	1,669	<b>24.2</b>	21.2-27.1
Some Post-H.S.	342	<b>27.5</b>	21.3-33.6	621	<b>14.5</b>	10.6-18.4	963	<b>20.4</b>	16.8-24.0
College Graduate	363	<b>19.7</b>	14.8-24.5	545	<b>13.0</b>	9.2-16.8	908	<b>16.3</b>	13.2-19.4
<b>Income</b>									
Less than \$15,000	155	<b>24.0</b>	15.9-32.2	395	<b>21.2</b>	15.2-27.3	550	<b>22.2</b>	17.4-27.1
\$15,000- 24,999	244	<b>34.7</b>	26.6-42.8	510	<b>20.0</b>	14.8-25.2	754	<b>26.4</b>	21.7-31.1
\$25,000- 34,999	201	<b>28.4</b>	20.0-36.7	319	<b>20.0</b>	14.0-26.1	520	<b>24.0</b>	18.8-29.1
\$35,000- 49,999	255	<b>25.5</b>	19.0-32.1	337	<b>12.2</b>	7.6-16.8	592	<b>18.9</b>	14.8-23.0
\$50,000- 74,999	244	<b>28.1</b>	21.1-35.1	331	<b>13.6</b>	8.4-18.7	575	<b>21.2</b>	16.7-25.7
\$75,000+	290	<b>20.0</b>	14.2-25.8	311	<b>10.7</b>	6.6-14.8	601	<b>16.0</b>	12.2-19.9

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

## CHAPTER 3: PHYSICAL INACTIVITY

### No Leisure-Time Physical Activity for Exercise in 2007 and 2008

<b>Definition</b>	Responding “No” to the following question: “During the past month, other than your regular job, did you participate in any physical activities or exercise such as running, calisthenics, golf, gardening, or walking for exercise?”
<b>Prevalence</b>	<b>WV: 28.2%</b> (95% CI: 26.6-29.8) in 2007; <b>31.1%</b> (95% CI: 29.4-32.8) in 2008. <b>US: 24.2%</b> (95% CI: 23.9-24.5) in 2007; <b>25.5%</b> (95% CI: 25.3-25.8) in 2008. West Virginia ranked 11 <sup>th</sup> highest among 54 BRFSS participants in 2007, and 5 <sup>th</sup> highest among 54 BRFSS participants in 2008.
<b>Time Trends</b>	From 1984 until 1994, the physical inactivity risk increased from 27.3% to 45.3%. After 1998, however, the trend improved, with the prevalence dropping to a low of 24.5% in 2004. The prevalence has once again begun to rise, to 31.1% in 2008.
<b>Gender</b>	<b>Men:</b> 25.6% (95% CI: 23.2-28.1) in 2007; 27.8% (95% CI: 25.2-30.4) in 2008. <b>Women:</b> 30.7% (95% CI: 28.6-32.8) in 2007; 34.2% (95% CI: 31.9-36.4) in 2008. Women had a significantly higher overall risk than men in both years.
<b>Age</b>	In general, the prevalence of physical inactivity increased with age. In both years, the rate among persons aged 65 and older was significantly higher than that among those aged less than 35.
<b>Education</b>	The prevalence of physical inactivity decreased with increasing education in both 2007 and 2008. Significant differences were noted between most levels of education in both years.
<b>Household Income</b>	The prevalence of physical inactivity was significantly higher than the state average among adults with incomes of less than \$15,000 in both 2007 and 2008. The prevalence among persons with incomes in excess of \$75,000 was significantly lower than all other income brackets in 2008.

#### WV HEALTHY PEOPLE 2010 OBJECTIVES

<b>Objective 22.1</b>	Reduce to 37% the proportion of people aged 18 and older who report no leisure-time physical activity. (Baseline: 43.7% in 1998; Current: 31.1% in 2008)
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**Table 3.1 No leisure-time physical activity for exercise by demographic characteristics: WVBRFSS, 2007**

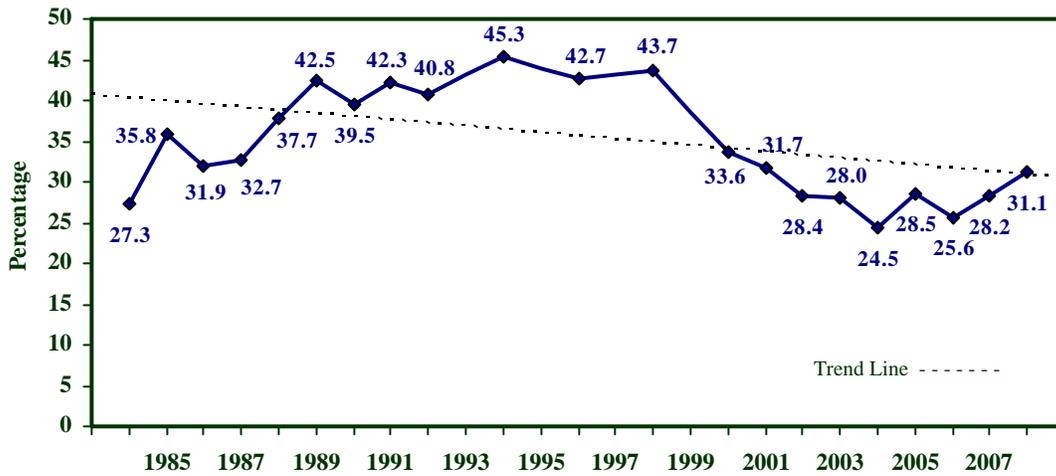
Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,759	<b>25.6</b>	23.2-28.1	2,680	<b>30.7</b>	28.6-32.8	4,439	<b>28.2</b>	26.6-29.8
<b>Age</b>									
18-24	72	<b>17.2</b>	7.2-27.1	91	<b>20.1</b>	10.4-29.8	163	<b>18.6</b>	11.7-25.6
25-34	181	<b>22.5</b>	15.9-29.1	294	<b>24.0</b>	18.9-29.2	475	<b>23.3</b>	19.1-27.5
35-44	263	<b>25.2</b>	19.6-30.8	383	<b>28.0</b>	23.0-33.0	646	<b>26.6</b>	22.9-30.4
45-54	372	<b>27.0</b>	22.1-31.9	508	<b>33.1</b>	28.6-37.7	880	<b>30.2</b>	26.8-33.5
55-64	411	<b>28.9</b>	24.2-33.6	552	<b>32.7</b>	28.4-37.0	963	<b>30.8</b>	27.6-34.0
65+	450	<b>29.3</b>	24.9-33.8	836	<b>38.7</b>	35.1-42.3	1,286	<b>34.7</b>	31.9-37.6
<b>Education</b>									
Less than H.S.	277	<b>40.2</b>	33.2-47.3	406	<b>46.7</b>	40.9-52.5	683	<b>43.4</b>	38.8-48.0
H.S. or G.E.D.	722	<b>26.9</b>	23.1-30.8	1,058	<b>33.4</b>	30.0-36.8	1,780	<b>30.2</b>	27.6-32.7
Some Post-H.S.	378	<b>22.7</b>	17.5-27.9	652	<b>27.0</b>	22.7-31.2	1,030	<b>25.0</b>	21.7-28.3
College Graduate	380	<b>15.1</b>	11.0-19.1	561	<b>19.9</b>	16.1-23.7	941	<b>17.6</b>	14.8-20.4
<b>Income</b>									
Less than \$15,000	195	<b>41.9</b>	33.7-50.2	431	<b>45.3</b>	39.7-51.0	626	<b>44.0</b>	39.2-48.7
\$15,000- 24,999	309	<b>26.4</b>	20.8-31.9	517	<b>34.6</b>	29.8-39.4	826	<b>30.8</b>	27.1-34.4
\$25,000- 34,999	234	<b>23.2</b>	17.0-29.3	314	<b>27.2</b>	21.6-32.8	548	<b>25.1</b>	21.0-29.3
\$35,000- 49,999	262	<b>26.4</b>	20.1-32.7	386	<b>29.8</b>	24.6-34.9	648	<b>28.2</b>	24.2-32.2
\$50,000- 74,999	279	<b>19.5</b>	14.2-24.8	341	<b>24.4</b>	18.4-30.4	620	<b>21.9</b>	17.9-25.9
\$75,000+	314	<b>18.4</b>	12.5-24.2	304	<b>15.5</b>	11.2-19.8	618	<b>17.2</b>	13.3-21.1

**Table 3.2 No leisure-time physical activity for exercise by demographic characteristics: WVBRFSS, 2008**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,581	<b>27.8</b>	25.2-30.4	2,579	<b>34.2</b>	31.9-36.4	4,160	<b>31.1</b>	29.4-32.8
<b>Age</b>									
18-24	61	<b>*23.7</b>	11.6-35.8	76	<b>*26.0</b>	15.3-36.7	137	<b>24.8</b>	16.7-32.9
25-34	173	<b>19.8</b>	13.6-26.0	231	<b>27.2</b>	21.0-33.5	404	<b>23.4</b>	19.0-27.9
35-44	235	<b>33.7</b>	27.3-40.2	347	<b>27.3</b>	22.2-32.5	582	<b>30.5</b>	26.4-34.6
45-54	335	<b>28.3</b>	23.2-33.5	501	<b>37.3</b>	32.7-42.0	836	<b>32.9</b>	29.4-36.4
55-64	379	<b>30.3</b>	25.6-35.1	600	<b>38.8</b>	34.5-43.1	979	<b>34.6</b>	31.3-37.8
65+	393	<b>29.6</b>	24.8-34.5	807	<b>41.8</b>	38.1-45.5	1,200	<b>36.7</b>	33.7-39.7
<b>Education</b>									
Less than H.S.	238	<b>35.6</b>	28.2-43.0	378	<b>47.2</b>	40.8-53.6	616	<b>41.4</b>	36.5-46.3
H.S. or G.E.D.	634	<b>32.4</b>	27.9-36.8	1,030	<b>37.9</b>	34.3-41.5	1,664	<b>35.2</b>	32.3-38.0
Some Post-H.S.	342	<b>26.6</b>	21.0-32.1	621	<b>32.6</b>	27.9-37.3	963	<b>29.8</b>	26.2-33.4
College Graduate	363	<b>15.2</b>	11.1-19.3	545	<b>20.1</b>	16.3-23.8	908	<b>17.6</b>	14.9-20.4
<b>Income</b>									
Less than \$15,000	155	<b>40.6</b>	31.8-49.4	394	<b>42.5</b>	36.2-48.8	549	<b>41.8</b>	36.7-47.0
\$15,000- 24,999	244	<b>34.3</b>	27.1-41.6	510	<b>39.2</b>	34.0-44.3	754	<b>37.1</b>	32.7-41.4
\$25,000- 34,999	202	<b>32.0</b>	24.3-39.7	318	<b>35.3</b>	28.8-41.9	520	<b>33.8</b>	28.8-38.8
\$35,000- 49,999	254	<b>25.1</b>	19.2-31.0	337	<b>33.0</b>	27.0-39.0	591	<b>29.0</b>	24.8-33.3
\$50,000- 74,999	244	<b>24.4</b>	18.3-30.5	331	<b>25.1</b>	19.9-30.2	575	<b>24.7</b>	20.7-28.8
\$75,000+	290	<b>14.5</b>	10.0-19.1	310	<b>20.3</b>	15.4-25.2	600	<b>17.0</b>	13.6-20.3

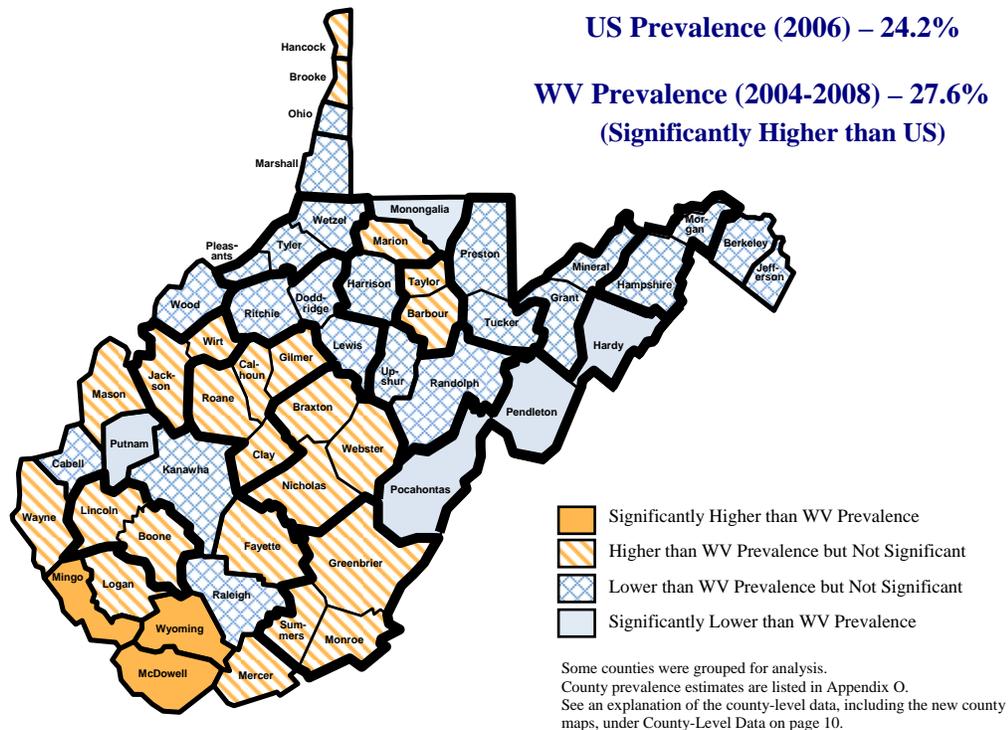
\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Figure 3.1 No leisure-time physical activity for exercise by year: WVBRFSS, 1984-2008**



NOTE: Data are not available for the years 1993, 1995, 1997, and 1999.

**Figure 3.2 No leisure-time physical activity for exercise by county: WVBRFSS, 2004-2008**



## CHAPTER 4: NUTRITION

### Consumption of Fewer than Five Servings of Vegetables and Fruits Daily in 2007

<b>Definition</b>	Consuming fewer than five servings of fruits and vegetables on a regular daily basis.
<b>Prevalence</b>	<b>WV: 80.3%</b> (95% CI: 78.9-81.7) in 2007. <b>US: 75.4%</b> (95% CI: 75.1-75.7) in 2007. West Virginia ranked 10 <sup>th</sup> highest among 54 BRFSS participants in 2007.
<b>Time Trends</b>	From 1990 through 2007, the prevalence of this risk factor fluctuated little, producing a flat trend line.
<b>Gender</b>	<b>Men:</b> 84.9% (95% CI: 83.0-86.9) in 2007. <b>Women:</b> 75.9% (95% CI: 73.9-77.9) in 2007. Men had a significantly higher overall prevalence of this risk factor than women.
<b>Age</b>	The prevalence of this risk factor did not vary greatly by age.
<b>Education</b>	Overall, college graduates had a significantly lower rate of this risk factor than persons with less education.
<b>Household Income</b>	The poorest households (those with less than \$15,000 in annual income) were at significantly higher risk than the wealthiest group (\$75,000 or more annual household income). Little difference was noted among the other income groups.

#### WV HEALTHY PEOPLE 2010 OBJECTIVES

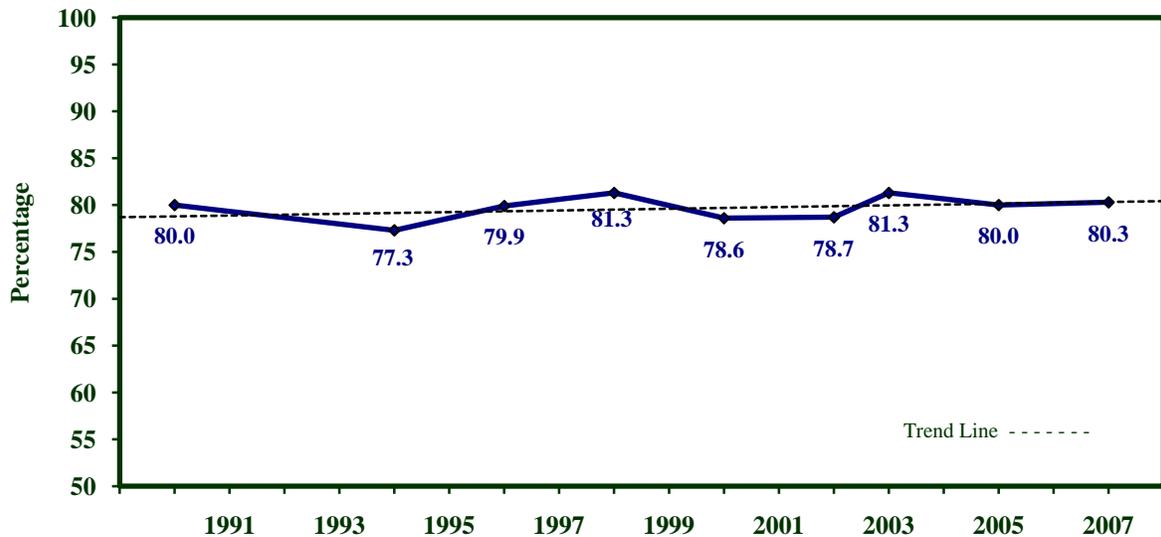
<b>Objective 19.2</b>	Increase to 35% the proportion of people aged 18 and older who consume at least five servings of vegetables and fruits per day. (Baseline: 18.7% in 1998; Current: 19.7% in 2007)
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**Table 4.1 Consumption of fewer than five servings of fruits and vegetables by demographic characteristics: WVBRFSS, 2007**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,749	<b>84.9</b>	83.0-86.9	2,665	<b>75.9</b>	73.9-77.9	4,414	<b>80.3</b>	78.9-81.7
<b>Age</b>									
18-24	70	<b>87.3</b>	79.5-95.1	90	<b>*74.4</b>	64.2-84.6	160	<b>80.9</b>	74.4-87.5
25-34	179	<b>85.8</b>	80.5-91.2	292	<b>79.6</b>	74.6-84.6	471	<b>82.8</b>	79.1-86.4
35-44	264	<b>87.4</b>	83.3-91.5	381	<b>77.3</b>	72.7-81.8	645	<b>82.3</b>	79.2-85.4
45-54	369	<b>84.3</b>	80.2-88.4	507	<b>76.2</b>	72.1-80.4	876	<b>80.1</b>	77.2-83.1
55-64	413	<b>83.5</b>	79.6-87.4	547	<b>74.4</b>	70.2-78.6	960	<b>79.0</b>	76.1-81.9
65+	444	<b>82.0</b>	78.2-85.8	834	<b>73.9</b>	70.6-77.1	1,278	<b>77.3</b>	74.8-79.8
<b>Education</b>									
Less than H.S.	273	<b>90.7</b>	87.1-94.3	404	<b>84.8</b>	80.3-89.2	677	<b>87.8</b>	84.9-90.7
H.S. or G.E.D.	720	<b>86.9</b>	84.0-89.8	1,053	<b>78.3</b>	75.3-81.3	1,773	<b>82.6</b>	80.5-84.7
Some Post-H.S.	376	<b>85.5</b>	81.6-89.5	645	<b>75.2</b>	70.8-79.5	1,021	<b>79.9</b>	76.8-82.9
College Graduate	379	<b>75.6</b>	70.6-80.6	560	<b>66.7</b>	62.1-71.2	939	<b>70.9</b>	67.5-74.3
<b>Income</b>									
Less than \$15,000	195	<b>88.2</b>	82.8-93.6	429	<b>77.8</b>	72.7-82.9	624	<b>82.0</b>	78.2-85.8
\$15,000- 24,999	308	<b>85.9</b>	81.3-90.5	512	<b>78.1</b>	73.8-82.4	820	<b>81.8</b>	78.7-85.0
\$25,000- 34,999	233	<b>87.8</b>	83.1-92.5	312	<b>82.7</b>	77.4-87.9	545	<b>85.3</b>	81.8-88.8
\$35,000- 49,999	260	<b>84.1</b>	78.7-89.5	385	<b>72.8</b>	67.8-77.9	645	<b>78.1</b>	74.4-81.8
\$50,000- 74,999	277	<b>84.6</b>	80.0-89.2	340	<b>71.3</b>	65.1-77.4	617	<b>78.0</b>	74.1-81.9
\$75,000+	313	<b>78.0</b>	72.8-83.3	303	<b>66.7</b>	60.7-72.8	616	<b>73.4</b>	69.4-77.4

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Figure 4.1 Consumption of fewer than five servings of fruits and vegetables daily by year: WVBRFSS, 1990-2007**



NOTE: Data are not available for the years 1991-1993, 1995, 1997, 1999, 2001, 2004, 2006, and 2008.

## CHAPTER 5: OBESITY AND OVERWEIGHT

### Obesity and Overweight in 2007 and 2008

<b>Definition</b>	Body Mass Index (BMI) is a calculation that standardizes the meaning of the terms obesity and overweight, thereby improving the accuracy of comparisons. BMI is body weight in kilograms divided by height in meters squared ( $BMI=kg/m^2$ ). Obesity is defined as a BMI of 30.0 or higher and overweight as a BMI of 25.0-29.9.
<b>Prevalence</b>	<p><b>Obesity</b> <b>WV:</b> 30.3% (95% CI: 28.7-31.9) in 2007; 31.9% (95% CI: 30.2-33.7) in 2008. <b>US:</b> 26.3% (95% CI: 26.0-26.5) in 2007; 26.7% (95% CI: 26.4-27.0) in 2008. West Virginia ranked 5<sup>th</sup> highest among 54 BRFSS participants in 2007 and 3<sup>rd</sup> highest among 54 BRFSS participants in 2008.</p> <p><b>Overweight</b> <b>WV:</b> 37.7% (95% CI: 35.9-39.5) in 2007; 36.9% (95% CI: 35.0-38.7) in 2008. <b>US:</b> 36.5% (95% CI: 36.2-36.9) in 2007; 36.3% (95% CI: 36.0-36.6) in 2008. West Virginia ranked 15<sup>th</sup> highest among 54 BRFSS participants in 2007 and 20<sup>th</sup> highest among 54 BRFSS participants in 2008.</p>
<b>Time Trends</b>	Between 1987 and 2008, a substantial increase in obesity prevalence occurred among West Virginia adults. The prevalence of overweight, in contrast, had only slight year-to-year variations around a flat long-term trend line. Between 2007 and 2008, obesity estimates increased, while the overweight prevalence declined marginally. These one-year changes were not significant. During both 2007 and 2008, approximately two-thirds of West Virginia adults were either obese or overweight.
<b>Gender</b>	<p><b>Obesity</b> <b>Men:</b> 30.8% (95% CI: 28.2-33.3) in 2007; 32.3% (95% CI: 29.6-35.0) in 2008. <b>Women:</b> 29.8% (95% CI: 27.7-31.9) in 2007; 31.6% (95% CI: 29.3-33.9) in 2008.</p> <p><b>Overweight</b> <b>Men:</b> 44.3% (95% CI: 41.5-47.1) in 2007; 42.9% (95% CI: 40.0-45.9) in 2008. <b>Women:</b> 31.3% (95% CI: 29.1-33.4) in 2007; 30.9% (95% CI: 28.7-33.2) in 2008. There are no significant gender differences for the prevalence of obesity. However, men had a significantly higher risk than women from overweight in both years.</p>
<b>Age</b>	The prevalence of obesity increases with age until age 65. For both 2007 and 2008, the highest age group was 55-64. There are no significant age differences for overweight in 2007 or 2008.
<b>Education and Household Income</b>	Few differences were significant in the prevalence of either obesity or overweight by educational attainment in 2007 and 2008. Similarly, few differences were noted by household income.

#### WV HEALTHY PEOPLE 2010 OBJECTIVES

<b>Objective 19.1b</b>	Reduce to 20% the proportion of people who are obese as defined by having a body mass index of 30 or greater. (Baseline: 23.9% in 1998; Current: 31.9% in 2008)
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**Table 5.1 Obesity by demographic characteristics: WVBRFSS, 2007**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,741	<b>30.8</b>	28.2-33.3	2,543	<b>29.8</b>	27.7-31.9	4,284	<b>30.3</b>	28.7-31.9
<b>Age</b>									
18-24	71	<b>19.5</b>	10.2-28.8	89	<b>14.7</b>	7.2-22.2	160	<b>17.2</b>	11.2-23.2
25-34	179	<b>33.0</b>	25.7-40.2	285	<b>26.8</b>	21.2-32.4	464	<b>30.0</b>	25.4-34.6
35-44	261	<b>36.6</b>	30.4-42.7	362	<b>32.7</b>	27.5-38.0	623	<b>34.7</b>	30.6-38.8
45-54	367	<b>36.4</b>	31.1-41.7	482	<b>36.0</b>	31.3-40.7	849	<b>36.2</b>	32.6-39.7
55-64	408	<b>33.9</b>	28.9-38.9	515	<b>40.0</b>	35.5-44.6	923	<b>36.9</b>	33.5-40.3
65+	445	<b>21.8</b>	17.6-26.0	800	<b>25.0</b>	21.7-28.2	1,245	<b>23.6</b>	21.0-26.2
<b>Education</b>									
Less than H.S.	273	<b>26.4</b>	20.1-32.7	388	<b>38.0</b>	32.2-43.8	661	<b>32.0</b>	27.7-36.4
H.S. or G.E.D.	713	<b>34.8</b>	30.6-38.9	1,000	<b>31.6</b>	28.2-35.0	1,713	<b>33.2</b>	30.5-35.9
Some Post-H.S.	377	<b>30.6</b>	25.2-36.1	619	<b>29.2</b>	25.0-33.4	996	<b>29.9</b>	26.5-33.3
College Graduate	377	<b>25.8</b>	21.0-30.6	533	<b>21.9</b>	18.1-25.6	910	<b>23.8</b>	20.7-26.8
<b>Income</b>									
Less than \$15,000	194	<b>32.1</b>	24.6-39.6	421	<b>33.2</b>	28.0-38.5	615	<b>32.8</b>	28.4-37.1
\$15,000- 24,999	306	<b>31.0</b>	24.7-37.3	492	<b>34.5</b>	29.4-39.6	798	<b>32.8</b>	28.8-36.8
\$25,000- 34,999	233	<b>24.1</b>	17.8-30.4	298	<b>33.9</b>	27.4-40.4	531	<b>28.8</b>	24.2-33.3
\$35,000- 49,999	260	<b>29.3</b>	23.3-35.4	370	<b>32.1</b>	26.8-37.4	630	<b>30.8</b>	26.8-34.8
\$50,000- 74,999	277	<b>32.8</b>	26.5-39.0	326	<b>29.6</b>	24.1-35.1	603	<b>31.2</b>	27.0-35.4
\$75,000+	314	<b>30.1</b>	24.2-35.9	291	<b>20.7</b>	15.8-25.6	605	<b>26.3</b>	22.3-30.3

Note: Obesity is defined as a body mass index of 30.0 or higher.

**Table 5.2 Obesity by demographic characteristics: WVBRFSS, 2008**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,569	<b>32.3</b>	29.6-35.0	2,443	<b>31.6</b>	29.3-33.9	4,012	<b>31.9</b>	30.2-33.7
<b>Age</b>									
18-24	60	<b>*11.1</b>	2.2-20.0	74	<b>20.8</b>	10.9-30.6	134	<b>15.7</b>	9.0-22.4
25-34	172	<b>30.8</b>	23.7-37.9	220	<b>33.2</b>	26.4-39.9	392	<b>31.9</b>	27.0-36.9
35-44	233	<b>38.6</b>	31.9-45.3	329	<b>39.4</b>	33.6-45.2	562	<b>39.0</b>	34.6-43.4
45-54	333	<b>42.2</b>	36.4-47.9	473	<b>34.1</b>	29.4-38.8	806	<b>38.1</b>	34.4-41.9
55-64	377	<b>41.6</b>	36.3-47.0	565	<b>37.1</b>	32.7-41.5	942	<b>39.4</b>	35.9-42.9
65+	391	<b>22.3</b>	18.0-26.7	772	<b>24.3</b>	21.0-27.6	1,163	<b>23.5</b>	20.8-26.1
<b>Education</b>									
Less than H.S.	235	<b>35.5</b>	27.9-43.1	359	<b>36.8</b>	30.6-43.0	594	<b>36.1</b>	31.2-41.1
H.S. or G.E.D.	632	<b>32.4</b>	28.2-36.6	975	<b>31.9</b>	28.2-35.5	1,607	<b>32.1</b>	29.3-34.9
Some Post-H.S.	341	<b>32.1</b>	26.5-37.8	589	<b>33.6</b>	28.8-38.3	930	<b>32.9</b>	29.2-36.6
College Graduate	357	<b>30.3</b>	24.9-35.6	517	<b>25.4</b>	21.1-29.6	874	<b>27.9</b>	24.4-31.3
<b>Income</b>									
Less than \$15,000	152	<b>31.0</b>	22.7-39.3	381	<b>39.8</b>	33.5-46.2	533	<b>36.6</b>	31.5-41.7
\$15,000- 24,999	241	<b>31.3</b>	24.5-38.2	491	<b>34.8</b>	29.6-40.0	732	<b>33.3</b>	29.1-37.5
\$25,000- 34,999	201	<b>32.5</b>	24.8-40.2	309	<b>30.9</b>	24.4-37.4	510	<b>31.7</b>	26.6-36.7
\$35,000- 49,999	255	<b>35.8</b>	29.3-42.2	317	<b>30.1</b>	24.1-36.0	572	<b>33.0</b>	28.6-37.5
\$50,000- 74,999	243	<b>34.1</b>	27.2-41.0	310	<b>31.2</b>	25.2-37.2	553	<b>32.7</b>	28.1-37.4
\$75,000+	286	<b>29.9</b>	24.0-35.8	298	<b>26.0</b>	20.5-31.6	584	<b>28.3</b>	24.2-32.4

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Table 5.3 Overweight but not obese by demographic characteristics: WVBRFSS, 2007**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,741	<b>44.3</b>	41.5-47.1	2,543	<b>31.3</b>	29.1-33.4	4,284	<b>37.7</b>	35.9-39.5
<b>Age</b>									
18-24	71	<b>*42.3</b>	29.8-54.8	89	<b>25.1</b>	15.7-34.5	160	<b>34.0</b>	25.9-42.0
25-34	179	<b>38.1</b>	30.5-45.7	285	<b>27.4</b>	21.8-33.0	464	<b>32.9</b>	28.1-37.7
35-44	261	<b>46.7</b>	40.3-53.1	362	<b>30.1</b>	24.9-35.2	623	<b>38.5</b>	34.3-42.7
45-54	367	<b>44.2</b>	38.8-49.7	482	<b>31.0</b>	26.6-35.5	849	<b>37.5</b>	34.0-41.1
55-64	408	<b>47.1</b>	41.8-52.3	515	<b>35.9</b>	31.4-40.5	923	<b>41.6</b>	38.1-45.1
65+	445	<b>46.5</b>	41.6-51.5	800	<b>35.3</b>	31.7-38.8	1,245	<b>40.2</b>	37.2-43.1
<b>Education</b>									
Less than H.S.	273	<b>44.1</b>	36.8-51.5	388	<b>28.8</b>	23.4-34.1	661	<b>36.7</b>	32.1-41.3
H.S. or G.E.D.	713	<b>42.4</b>	38.0-46.7	1,000	<b>33.1</b>	29.6-36.6	1,713	<b>37.8</b>	35.0-40.6
Some Post-H.S.	377	<b>45.8</b>	39.6-52.0	619	<b>30.0</b>	25.8-34.3	996	<b>37.4</b>	33.6-41.1
College Graduate	377	<b>46.9</b>	41.2-52.7	533	<b>31.0</b>	26.5-35.4	910	<b>38.6</b>	35.0-42.3
<b>Income</b>									
Less than \$15,000	194	<b>30.7</b>	23.2-38.1	421	<b>30.7</b>	25.3-36.1	615	<b>30.7</b>	26.3-35.1
\$15,000- 24,999	306	<b>36.7</b>	30.5-42.9	492	<b>32.5</b>	27.5-37.6	798	<b>34.6</b>	30.6-38.5
\$25,000- 34,999	233	<b>56.5</b>	48.8-64.2	298	<b>41.3</b>	34.5-48.1	531	<b>49.3</b>	44.0-54.5
\$35,000- 49,999	260	<b>44.9</b>	37.8-51.9	370	<b>28.6</b>	23.4-33.8	630	<b>36.3</b>	31.9-40.7
\$50,000- 74,999	277	<b>50.5</b>	43.9-57.0	326	<b>31.9</b>	26.2-37.7	603	<b>41.5</b>	37.0-46.0
\$75,000+	314	<b>46.4</b>	39.7-53.1	291	<b>29.3</b>	23.8-34.9	605	<b>39.6</b>	34.9-44.3

Note: Overweight is defined as a body mass index of 25.0-29.9.

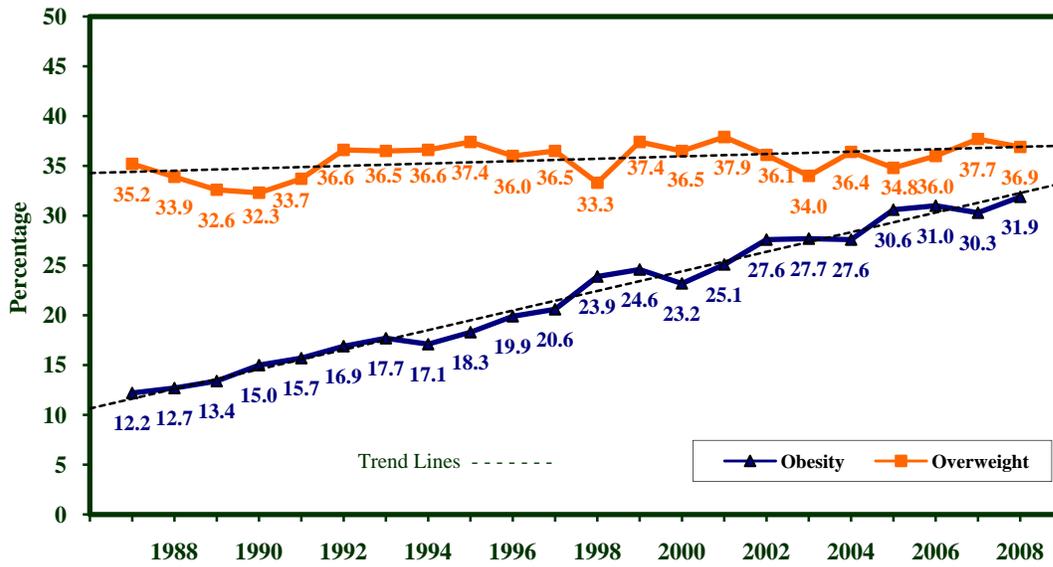
\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Table 5.4 Overweight but not obese by demographic characteristics: WVBRFSS, 2008**

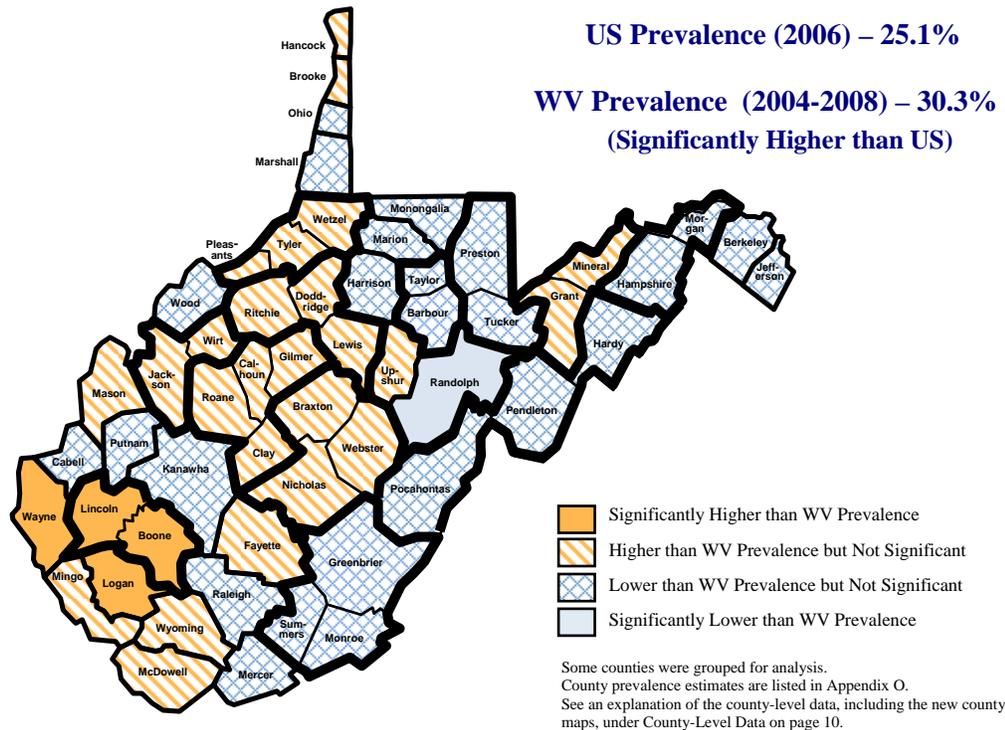
Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,569	<b>42.9</b>	40.0-45.9	2,443	<b>30.9</b>	28.7-33.2	4,012	<b>36.9</b>	35.0-38.7
<b>Age</b>									
18-24	60	<b>*33.2</b>	20.6-45.8	74	<b>*27.2</b>	15.9-38.5	134	<b>30.3</b>	21.8-38.8
25-34	172	<b>41.4</b>	33.7-49.1	220	<b>28.3</b>	22.1-34.4	392	<b>35.1</b>	30.1-40.2
35-44	233	<b>46.8</b>	40.0-53.5	329	<b>26.6</b>	21.5-31.7	562	<b>36.9</b>	32.5-41.2
45-54	333	<b>41.7</b>	36.0-47.5	473	<b>34.3</b>	29.6-39.0	806	<b>38.0</b>	34.3-41.8
55-64	377	<b>41.9</b>	36.6-47.3	565	<b>32.4</b>	28.2-36.6	942	<b>37.3</b>	33.8-40.7
65+	391	<b>50.1</b>	44.8-55.5	772	<b>34.0</b>	30.4-37.6	1,163	<b>40.9</b>	37.8-44.1
<b>Education</b>									
Less than H.S.	235	<b>36.4</b>	28.5-44.2	359	<b>25.7</b>	20.0-31.3	594	<b>31.1</b>	26.2-36.0
H.S. or G.E.D.	632	<b>40.0</b>	35.4-44.6	975	<b>32.7</b>	29.0-36.5	1,607	<b>36.4</b>	33.4-39.3
Some Post-H.S.	341	<b>43.9</b>	37.7-50.2	589	<b>34.1</b>	29.4-38.8	930	<b>38.7</b>	34.8-42.6
College Graduate	357	<b>52.0</b>	46.2-57.9	517	<b>27.2</b>	23.0-31.5	874	<b>39.9</b>	36.1-43.6
<b>Income</b>									
Less than \$15,000	152	<b>41.3</b>	32.3-50.3	381	<b>27.6</b>	21.8-33.3	533	<b>32.6</b>	27.6-37.5
\$15,000- 24,999	241	<b>32.8</b>	25.5-40.2	491	<b>32.5</b>	27.2-37.8	732	<b>32.6</b>	28.2-37.1
\$25,000- 34,999	201	<b>42.4</b>	34.5-50.3	309	<b>30.5</b>	24.2-36.8	510	<b>36.2</b>	31.2-41.2
\$35,000- 49,999	255	<b>46.1</b>	39.1-53.0	317	<b>29.3</b>	23.4-35.2	572	<b>38.0</b>	33.3-42.7
\$50,000- 74,999	243	<b>46.4</b>	39.0-53.8	310	<b>33.2</b>	27.4-38.9	553	<b>40.3</b>	35.5-45.2
\$75,000+	286	<b>49.1</b>	42.3-55.9	298	<b>31.4</b>	25.5-37.3	584	<b>41.7</b>	37.0-46.4

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Figure 5.1 Obesity and overweight by year: WVBRFSS, 1987-2008**



**Figure 5.2 Obesity (body mass index of 30.0 or higher) by county: WVBRFSS, 2004-2008**



## CHAPTER 6: TOBACCO USE

### Current Cigarette Smoking in 2007 and 2008

<b>Definition</b>	Smoking at least 100 cigarettes in one's lifetime and currently smoking every day or some days.
<b>Prevalence</b>	<b>WV: 26.9%</b> (95% CI: 25.2-28.5) in 2007; <b>26.5%</b> (95% CI: 24.8-28.3) in 2008. <b>US: 19.4%</b> (95% CI: 19.1-19.6) in 2007; <b>18.4%</b> (95% CI: 18.1-18.7) in 2008. West Virginia ranked 3 <sup>rd</sup> highest among 54 BRFSS participants in 2007 and 2 <sup>nd</sup> highest among 54 BRFSS participants in 2008.
<b>Time Trends</b>	The 1986 through 2008 trend line shows a very slight decline in the prevalence of smoking among West Virginia adults.
<b>Gender</b>	<b>Men:</b> 28.4% (95% CI: 25.8-31.1) in 2007; 26.0% (95% CI: 23.2-28.8) in 2008. <b>Women:</b> 25.4% (95% CI: 23.3-27.4) in 2007; 27.0% (95% CI: 24.7-29.3) in 2008. There were no gender differences in the prevalence of smoking in 2007 or 2008.
<b>Age</b>	The prevalence of smoking was significantly lower among those aged 65 and older than among any other age group in both 2007 and 2008. While the results are mixed for 2007, 2008 data show a steady decline in smoking prevalence with increasing age. Also in 2008, the smoking prevalence among 18-24 year olds was 41.2%, significantly higher than those aged 45 and older.
<b>Education</b>	Adults with less than a high school degree were more likely to be current smokers than any group with post-high school educations, a significant difference in 2007. In contrast, the smoking risks among college graduates were lower than other groups in both years by a significant margin. Additionally, the observed differences are most apparent among males.
<b>Household Income</b>	The prevalence of current smoking decreased as household income increased in both years. In 2007, the prevalence among those earning less than \$15,000 per year was significantly higher than all other income groups. This result changed somewhat in 2008 where the smoking prevalence among those earning less than \$35,000 per year was significantly higher than those with a household income of \$50,000 or more.

#### WV HEALTHY PEOPLE 2010 OBJECTIVES

<b>Objective 27.1a</b>	Reduce the prevalence of cigarette smoking among adults aged 18+ to 20% or lower. (Baseline: 28% in 1998; Current: 26.5% in 2008)
<b>Objective 27.1b</b>	Reduce the prevalence of cigarette smoking among adults aged 18+ in the lower socioeconomic level (12 years or fewer of education and a household income of less than \$25,000) to 25% or lower. (Baseline: 36% in 1998; Current: 32.9% in 2008)
<b>Objective 27.1c</b>	Reduce the prevalence of cigarette smoking among women aged 18-44 (i.e., childbearing ages) to 25% or lower. (Baseline: 36% in 1998; Current: 37.8% in 2008)

**Table 6.1 Current cigarette smoking by demographic characteristics: WVBRFSS, 2007**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,758	<b>28.4</b>	25.8-31.1	2,676	<b>25.4</b>	23.3-27.4	4,434	<b>26.9</b>	25.2-28.5
<b>Age</b>									
18-24	72	<b>*39.0</b>	26.8-51.2	91	<b>*30.5</b>	20.4-40.6	163	<b>34.9</b>	26.9-42.9
25-34	181	<b>39.9</b>	32.1-47.7	294	<b>32.4</b>	26.6-38.2	475	<b>36.2</b>	31.3-41.1
35-44	264	<b>31.8</b>	25.7-37.9	383	<b>34.3</b>	29.0-39.6	647	<b>33.1</b>	29.0-37.1
45-54	369	<b>29.8</b>	24.7-34.9	508	<b>28.6</b>	24.3-32.8	877	<b>29.2</b>	25.9-32.5
55-64	412	<b>23.3</b>	18.9-27.8	550	<b>21.5</b>	17.7-25.3	962	<b>22.4</b>	19.5-25.3
65+	450	<b>11.1</b>	8.0-14.2	834	<b>11.8</b>	9.5-14.2	1,284	<b>11.5</b>	9.6-13.4
<b>Education</b>									
Less than H.S.	277	<b>48.5</b>	41.1-56.0	404	<b>35.5</b>	29.7-41.3	681	<b>42.1</b>	34.2-47.0
H.S. or G.E.D.	720	<b>30.2</b>	26.1-34.4	1,057	<b>28.6</b>	25.1-32.0	1,777	<b>29.4</b>	26.7-32.1
Some Post-H.S.	380	<b>26.7</b>	21.0-32.4	652	<b>24.9</b>	20.9-28.9	1,032	<b>25.7</b>	22.3-29.1
College Graduate	379	<b>11.7</b>	8.0-15.3	560	<b>13.3</b>	9.9-16.7	939	<b>12.5</b>	10.1-15.0
<b>Income</b>									
Less than \$15,000	197	<b>48.3</b>	39.9-56.6	429	<b>40.6</b>	34.8-46.4	626	<b>43.7</b>	38.9-48.6
\$15,000- 24,999	309	<b>35.6</b>	29.1-42.2	516	<b>32.7</b>	27.7-37.6	825	<b>34.0</b>	30.0-38.1
\$25,000- 34,999	234	<b>29.6</b>	21.9-37.3	314	<b>29.4</b>	22.8-36.1	548	<b>29.5</b>	24.4-34.6
\$35,000- 49,999	260	<b>30.7</b>	23.6-37.8	386	<b>22.9</b>	17.9-27.9	646	<b>26.5</b>	22.2-30.8
\$50,000- 74,999	279	<b>23.9</b>	17.9-29.9	341	<b>21.7</b>	16.5-26.9	620	<b>22.8</b>	18.8-26.8
\$75,000+	313	<b>13.4</b>	8.5-18.3	303	<b>12.1</b>	8.1-16.1	616	<b>12.9</b>	9.6-16.2

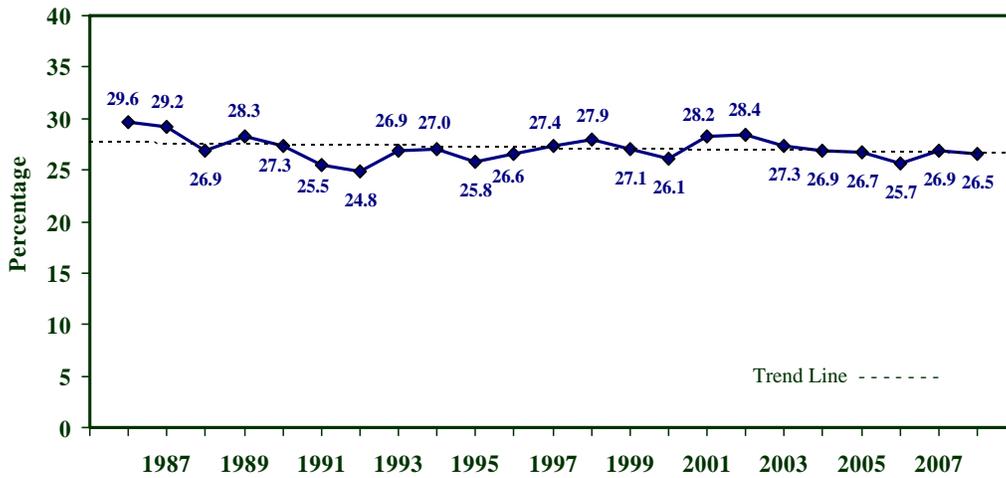
\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Table 6.2 Current cigarette smoking by demographic characteristics: WVBRFSS, 2008**

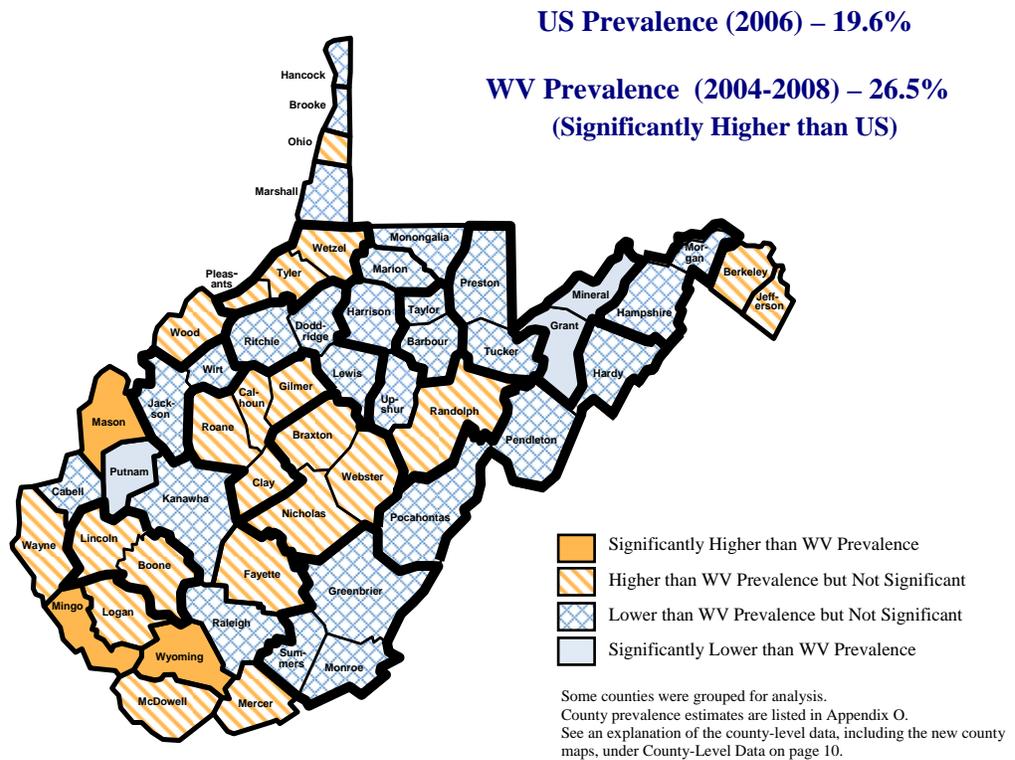
Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,577	<b>26.0</b>	23.2-28.8	2,579	<b>27.0</b>	24.7-29.3	4,156	<b>26.5</b>	24.8-28.3
<b>Age</b>									
18-24	61	<b>*38.4</b>	25.3-51.5	76	<b>*44.2</b>	32.3-56.2	137	<b>41.2</b>	32.3-50.2
25-34	172	<b>38.1</b>	30.2-46.0	232	<b>39.4</b>	32.7-46.0	404	<b>38.7</b>	33.5-43.9
35-44	235	<b>27.8</b>	21.6-33.9	347	<b>32.0</b>	26.6-37.4	582	<b>29.9</b>	25.8-34.0
45-54	334	<b>27.2</b>	22.0-32.4	502	<b>28.8</b>	24.4-33.2	836	<b>28.0</b>	24.6-31.4
55-64	378	<b>19.9</b>	15.7-24.2	599	<b>20.8</b>	17.2-24.3	977	<b>20.4</b>	17.6-23.1
65+	392	<b>8.7</b>	6.0-11.4	807	<b>10.0</b>	8.0-12.1	1,199	<b>9.5</b>	7.8-11.1
<b>Education</b>									
Less than H.S.	237	<b>38.0</b>	30.1-45.9	377	<b>37.5</b>	30.9-44.2	614	<b>37.8</b>	32.6-42.9
H.S. or G.E.D.	632	<b>30.0</b>	25.3-34.7	1,031	<b>30.7</b>	27.0-34.5	1,663	<b>30.4</b>	27.4-33.4
Some Post-H.S.	341	<b>25.1</b>	19.4-30.7	622	<b>26.1</b>	21.6-30.6	963	<b>25.6</b>	22.0-29.2
College Graduate	363	<b>12.1</b>	8.1-16.1	545	<b>14.0</b>	10.4-17.5	908	<b>13.0</b>	10.4-15.7
<b>Income</b>									
Less than \$15,000	155	<b>39.7</b>	30.8-48.6	394	<b>33.3</b>	27.4-39.2	549	<b>35.6</b>	30.6-40.6
\$15,000- 24,999	244	<b>33.3</b>	25.7-40.9	511	<b>35.7</b>	30.2-41.2	755	<b>34.6</b>	30.1-39.2
\$25,000- 34,999	201	<b>31.3</b>	22.9-39.6	319	<b>36.9</b>	29.8-44.0	520	<b>34.3</b>	28.8-39.7
\$35,000- 49,999	252	<b>24.8</b>	18.7-31.0	337	<b>25.0</b>	19.1-30.9	589	<b>24.9</b>	20.7-29.2
\$50,000- 74,999	244	<b>19.3</b>	12.9-25.8	329	<b>19.4</b>	14.2-24.5	573	<b>19.4</b>	15.2-23.5
\$75,000+	289	<b>15.2</b>	9.7-20.6	311	<b>14.1</b>	9.6-18.6	600	<b>14.7</b>	11.0-18.4

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Figure 6.1 Current cigarette smoking by year: WVBRFSS, 1986-2008**



**Figure 6.2 Current cigarette smoking by county: WVBRFSS, 2004-2008**



## CHAPTER 7: HYPERTENSION

### Hypertension Awareness in 2007

<b>Definition</b>	Responding “Yes” to the following question: “Have you ever been told by a doctor, nurse, or other health professional that you have high blood pressure?”
<b>Prevalence</b>	<b>WV: 33.3%</b> (95% CI: 31.6-34.9) in 2007. <b>US: 27.7%</b> (95% CI: 27.4-28.0) in 2007. West Virginia ranked 3 <sup>rd</sup> highest among 54 BRFSS participants in 2007.
<b>Time Trends</b>	From 1995 through 2007, hypertension awareness grew steadily.
<b>Gender</b>	<b>Men:</b> 35.0% (95% CI: 32.4-37.5) in 2007. <b>Women:</b> 31.6% (95% CI: 29.7-33.6) in 2007. There was no significant gender difference in the prevalence of hypertension in 2007. Interestingly, the prevalence of hypertension among men increased between 2005 and 2007 but remained stable for women.
<b>Age</b>	The prevalence of hypertension increased steeply and significantly with increasing age, a well-known phenomenon.
<b>Education and Household Income</b>	Adults without a high school diploma had a significantly higher prevalence of hypertension than those with more education. Similarly, those with less income had higher hypertension prevalence than those with higher incomes.

#### WV HEALTHY PEOPLE 2010 OBJECTIVES

**Objective 12.3** Decrease the proportion of adults who have high blood pressure to no more than 22%. (Baseline: 28.3% in 1997; Current: 33.3% in 2007)

**Figure 7.1 Prevalence of hypertension awareness by year: WVBRFSS, 1984-2007**



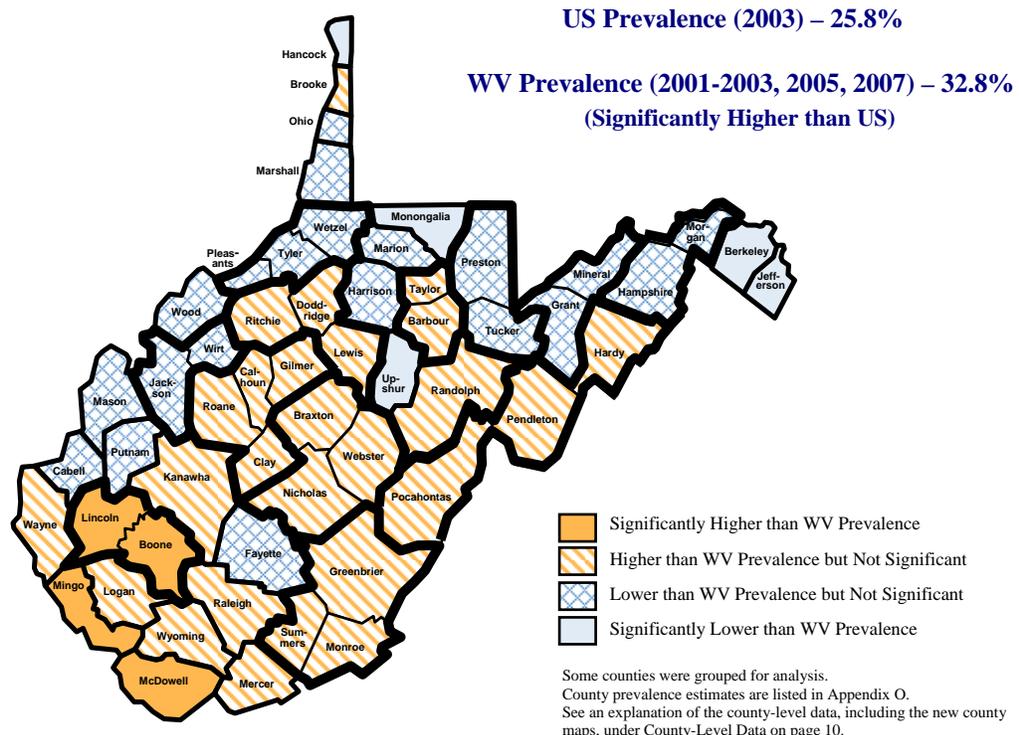
NOTE: Data not available for the years 1998, 2000, 2004, 2006, and 2008.

**Table 7.1 Hypertension awareness by demographic characteristics: WVBRFSS, 2007**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,757	<b>35.0</b>	32.4-37.5	2,682	<b>31.6</b>	29.7-33.6	4,439	<b>33.3</b>	31.6-34.9
<b>Age</b>									
18-24	72	<b>*14.8</b>	5.8-23.9	91	<b>*8.1</b>	1.0-15.3	163	<b>11.6</b>	5.8-17.4
25-34	180	<b>14.6</b>	9.1-20.2	294	<b>10.0</b>	6.1-13.8	474	<b>12.3</b>	8.9-15.7
35-44	263	<b>24.1</b>	18.7-29.5	383	<b>15.6</b>	11.6-19.5	646	<b>19.8</b>	16.5-23.1
45-54	370	<b>39.9</b>	34.5-45.3	508	<b>28.3</b>	24.0-32.6	878	<b>33.9</b>	30.4-37.3
55-64	412	<b>51.4</b>	46.2-56.6	552	<b>46.4</b>	41.9-50.9	964	<b>48.9</b>	45.5-52.4
65+	450	<b>57.6</b>	52.7-62.5	838	<b>61.9</b>	58.3-65.5	1,288	<b>60.1</b>	57.1-63.0
<b>Education</b>									
Less than H.S.	277	<b>40.2</b>	33.2-47.1	408	<b>50.3</b>	44.5-56.1	685	<b>45.2</b>	40.6-49.8
H.S. or G.E.D.	718	<b>37.9</b>	33.8-42.1	1,058	<b>34.5</b>	31.3-37.7	1,776	<b>36.2</b>	33.6-38.8
Some Post-H.S.	380	<b>30.9</b>	25.7-36.0	652	<b>25.8</b>	21.7-29.9	1,032	<b>28.1</b>	24.9-31.3
College Graduate	380	<b>29.5</b>	24.7-34.3	561	<b>21.2</b>	17.6-24.8	941	<b>25.1</b>	22.1-28.0
<b>Income</b>									
Less than \$15,000	196	<b>46.8</b>	38.6-55.0	431	<b>41.5</b>	36.2-46.9	627	<b>43.7</b>	39.1-48.3
\$15,000- 24,999	307	<b>38.5</b>	32.2-44.7	517	<b>38.8</b>	34.0-43.6	824	<b>38.7</b>	34.8-42.5
\$25,000- 34,999	235	<b>37.3</b>	30.0-44.6	314	<b>34.2</b>	28.3-40.2	549	<b>35.8</b>	31.1-40.6
\$35,000- 49,999	261	<b>34.5</b>	28.2-40.8	386	<b>28.7</b>	23.8-33.7	647	<b>31.4</b>	27.5-35.4
\$50,000- 74,999	279	<b>33.4</b>	27.5-39.3	341	<b>22.2</b>	16.5-28.0	620	<b>27.9</b>	23.8-32.0
\$75,000+	314	<b>28.0</b>	22.2-33.9	304	<b>14.3</b>	10.5-18.2	618	<b>22.5</b>	18.6-26.3

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Figure 7.2 Hypertension awareness by county: WVBRFSS, 2001- 2003, 2005, 2007**

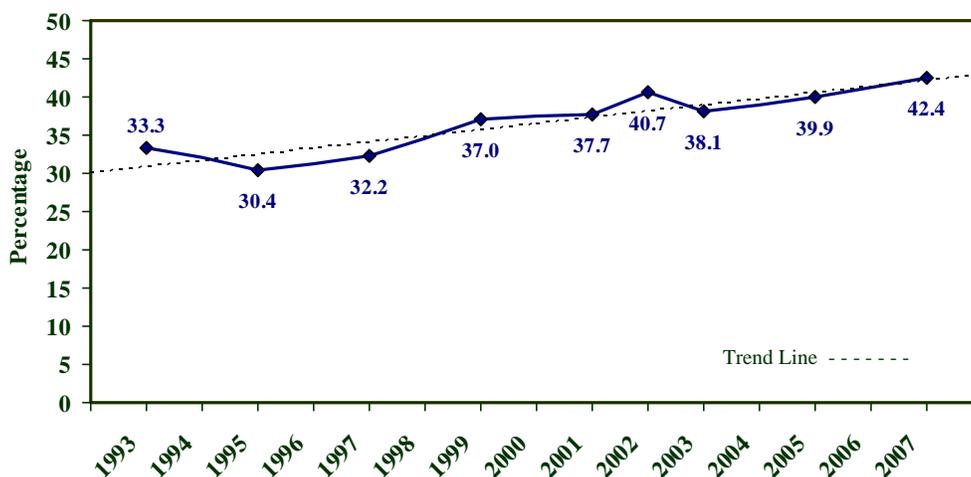


## CHAPTER 8: CHOLESTEROL

### High Cholesterol Awareness among Those Who Have Ever Had It Checked

<b>Definition</b>	Responding “Yes” to the following question: “Have you ever been told by a doctor, nurse, or other health professional that your blood cholesterol is high?”
<b>Prevalence</b>	<b>WV: 42.2%</b> (95% CI: 40.6-44.3) in 2007. <b>US: 37.3%</b> (95% CI: 37.0-37.6) in 2007. West Virginia ranked 1 <sup>st</sup> highest among 54 BRFSS participants in 2007.
<b>Time Trends</b>	Between 1995 and 2007, the prevalence of high cholesterol among West Virginia adults generally increased and is currently at the highest it has been in the past 15 years.
<b>Gender</b>	<b>Men:</b> 42.4% (95% CI: 39.5-45.3) in 2007. <b>Women:</b> 42.4% (95% CI: 40.1-44.7) in 2007. There is no gender difference in the prevalence of high cholesterol.
<b>Age</b>	Generally, the prevalence of high cholesterol increased with increasing age.
<b>Education</b>	High cholesterol prevalence declined with increasing levels of educational attainment. Adults with less than a high school education had a significantly higher prevalence of high cholesterol than all other educational levels.
<b>Household Income</b>	About half of those with an annual household income of less than \$15,000 had high cholesterol. Only about one-third of those in the upper income brackets reported having high cholesterol levels.

**Figure 8.1 Prevalence of high blood cholesterol among those who have ever had their blood cholesterol checked by year: WVBRFSS, 1993-2007**



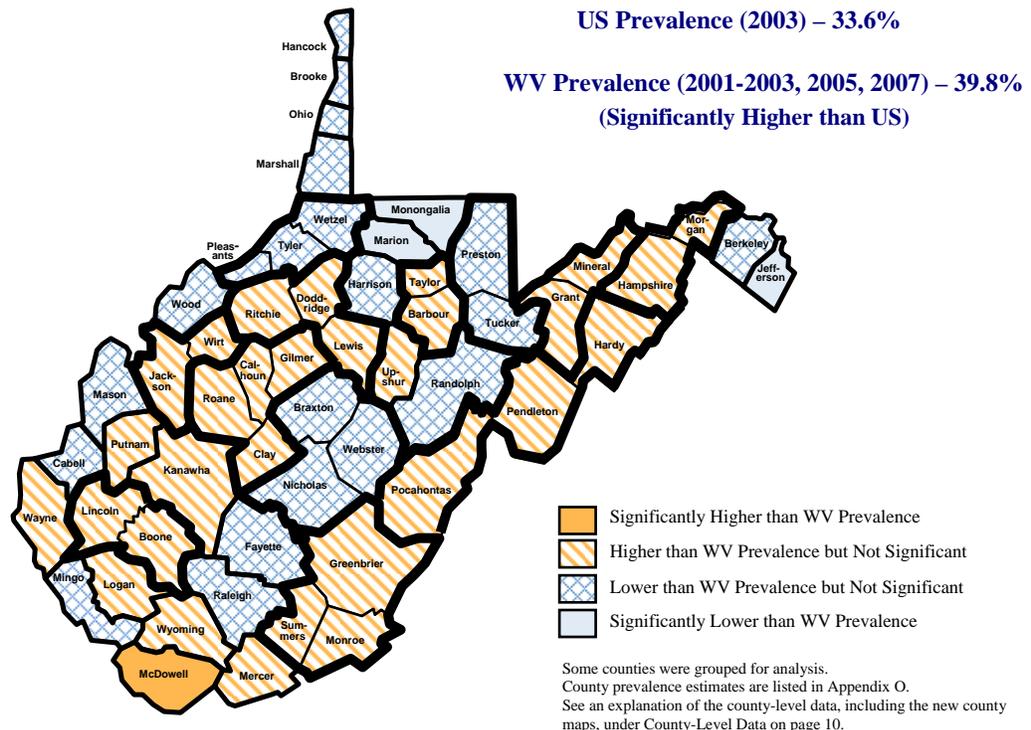
NOTES: Data not available for the years 1994, 1996, 1998, 2000, 2004, and 2006.

**Table 8.1 Prevalence of high cholesterol among those who have ever had their blood cholesterol checked by demographic characteristics: WVBRFSS, 2007**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,488	<b>42.4</b>	39.5-45.3	2,276	<b>42.4</b>	40.1-44.7	3,764	<b>42.4</b>	40.6-44.3
<b>Age</b>									
18-24	29	<b>*14.0</b>	0.5-27.5	31	<b>*4.8</b>	0.0-11.3	60	<b>*9.8</b>	1.8-17.9
25-34	109	<b>26.9</b>	18.0-35.9	181	<b>16.3</b>	10.7-22.0	290	<b>21.5</b>	16.2-26.8
35-44	208	<b>38.9</b>	31.9-45.9	291	<b>26.1</b>	20.6-31.5	499	<b>32.5</b>	28.0-37.0
45-54	325	<b>43.6</b>	37.7-49.4	451	<b>43.8</b>	38.8-48.8	776	<b>43.7</b>	39.9-47.5
55-64	388	<b>57.2</b>	51.9-62.5	523	<b>59.7</b>	55.1-64.2	911	<b>58.4</b>	54.9-61.9
65+	422	<b>47.4</b>	42.3-52.5	785	<b>57.3</b>	53.5-61.1	1,207	<b>53.1</b>	50.0-56.2
<b>Education</b>									
Less than H.S.	219	<b>54.4</b>	46.9-61.9	332	<b>57.0</b>	50.6-63.4	551	<b>55.7</b>	50.8-60.7
H.S. or G.E.D.	596	<b>41.6</b>	37.0-46.1	879	<b>47.2</b>	43.5-50.9	1,475	<b>44.4</b>	41.4-47.3
Some Post-H.S.	318	<b>38.4</b>	32.3-44.5	552	<b>37.4</b>	32.9-42.0	870	<b>37.9</b>	34.2-41.5
College Graduate	353	<b>41.1</b>	35.4-46.9	510	<b>31.9</b>	27.6-36.3	863	<b>36.3</b>	32.7-39.9
<b>Income</b>									
Less than \$15,000	157	<b>53.2</b>	44.4-61.9	347	<b>55.9</b>	49.9-62.0	504	<b>54.8</b>	49.7-59.8
\$15,000- 24,999	242	<b>45.3</b>	38.1-52.6	432	<b>47.3</b>	41.7-52.9	674	<b>46.4</b>	42.0-50.9
\$25,000- 34,999	201	<b>40.9</b>	33.0-48.8	263	<b>47.3</b>	40.3-54.3	464	<b>44.0</b>	38.7-49.3
\$35,000- 49,999	222	<b>46.7</b>	39.3-54.1	331	<b>36.1</b>	30.6-41.7	553	<b>40.9</b>	36.3-45.5
\$50,000- 74,999	244	<b>43.7</b>	37.0-50.4	306	<b>33.1</b>	27.5-38.7	550	<b>38.5</b>	34.1-42.9
\$75,000+	295	<b>36.4</b>	30.1-42.8	274	<b>28.0</b>	22.4-33.5	569	<b>33.0</b>	28.6-37.4

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Figure 8.2 High cholesterol awareness by county: WVBRFSS, 2001-2003, 2005, 2007**



## CHAPTER 9: ALCOHOL CONSUMPTION

### Binge Drinking in 2007 and 2008

<b>Definition</b>	Consumption of five or more alcoholic drinks for males, or four or more alcoholic drinks for females, on a single occasion during the past one month.
<b>Prevalence</b>	<b>WV: 9.7%</b> (95% CI: 8.5-10.9) in 2007; <b>8.8%</b> (95% CI: 7.5-10.0) in 2008. <b>US: 15.4%</b> (95% CI: 15.1-15.7) in 2007; <b>15.1%</b> (95% CI: 14.8-15.4) in 2008. West Virginia ranked 52 <sup>nd</sup> highest among 54 BRFSS participants in 2007 and 53 <sup>rd</sup> highest among 54 BRFSS participants in 2008.
<b>Time Trends</b>	Overall from 1984 through 2005, there was a downward trend in binge drinking prevalence.
<b>Gender</b>	<b>Men:</b> 15.3% (95% CI: 13.1-17.5) in 2007; 14.0% (95% CI: 11.7-16.3) in 2008. <b>Women:</b> 4.5% (95% CI: 3.6-5.4) in 2007; 3.9% (95% CI: 2.9-4.9) in 2008. Men had a significantly higher prevalence of binge drinking than women in both 2007 and 2008.
<b>Age</b>	Younger adults had higher rates of binge drinking than those aged 45 and older. The prevalence ranged from highs of 13%-15% among the 18-24 age group to lows of only 1%-2% among those aged 65 and older.
<b>Education</b>	There was no significant relationship between binge drinking and educational attainment.
<b>Household Income</b>	There was no consistent relationship between binge drinking and household income; however, the highest income group (\$75,000 and above annually) had the highest prevalence in both 2007 (12.0%) and 2008 (12.3%).

#### WV HEALTHY PEOPLE 2010 OBJECTIVES

<b>Objective 26.10</b>	Reduce the rate of binge drinking reported among adults 18 and older (binge drinking defined as five or more drinks on any one occasion in the past month) by 20%. (Baseline: 8.4% in 1997; Current: 8.8% in 2008)
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**Table 9.1 Binge drinking by demographic characteristics: WVBRFSS, 2007**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,725	<b>15.3</b>	13.1-17.5	2,660	<b>4.5</b>	3.6-5.4	4,385	<b>9.7</b>	8.5-10.9
<b>Age</b>									
18-24	69	<b>*24.3</b>	13.7-34.9	91	<b>*4.1</b>	0.4-7.7	160	<b>14.1</b>	8.3-20.0
25-34	178	<b>30.4</b>	23.2-37.6	294	<b>8.5</b>	5.3-11.7	472	<b>19.5</b>	15.4-23.7
35-44	259	<b>17.8</b>	12.9-22.6	382	<b>7.6</b>	4.7-10.5	641	<b>12.6</b>	9.8-15.4
45-54	362	<b>13.1</b>	9.4-16.8	503	<b>5.5</b>	3.5-7.5	865	<b>9.1</b>	7.1-11.2
55-64	406	<b>6.8</b>	4.3-9.3	547	<b>*2.3</b>	0.9-3.6	953	<b>4.5</b>	3.1-6.0
65+	443	<b>3.5</b>	1.7-5.3	827	<b>0.4</b>	0.0-0.8	1,270	<b>1.7</b>	0.9-2.5
<b>Education</b>									
Less than H.S.	271	<b>13.6</b>	8.3-18.9	406	<b>4.5</b>	2.0-7.0	677	<b>9.1</b>	6.1-12.0
H.S. or G.E.D.	708	<b>14.7</b>	11.5-18.0	1,051	<b>3.6</b>	2.4-4.9	1,759	<b>9.1</b>	7.4-10.9
Some Post-H.S.	371	<b>18.5</b>	13.0-24.1	644	<b>6.1</b>	4.0-8.3	1,015	<b>11.7</b>	8.9-14.6
College Graduate	373	<b>14.1</b>	9.8-18.4	556	<b>4.3</b>	2.4-6.2	929	<b>8.9</b>	6.6-11.2
<b>Income</b>									
Less than \$15,000	192	<b>17.2</b>	9.7-24.8	430	<b>5.7</b>	3.2-8.2	622	<b>10.3</b>	6.8-13.8
\$15,000- 24,999	303	<b>13.2</b>	8.3-18.1	515	<b>4.3</b>	2.2-6.5	818	<b>8.5</b>	5.9-11.0
\$25,000- 34,999	231	<b>13.8</b>	8.3-19.3	312	<b>3.3</b>	1.4-5.1	543	<b>8.6</b>	5.6-11.6
\$35,000- 49,999	259	<b>17.8</b>	11.8-23.8	383	<b>4.5</b>	2.1-6.9	642	<b>10.7</b>	7.5-13.9
\$50,000- 74,999	270	<b>15.1</b>	10.0-20.3	339	<b>6.1</b>	3.4-8.8	609	<b>10.6</b>	7.6-13.6
\$75,000+	311	<b>16.9</b>	11.7-22.1	303	<b>4.8</b>	2.2-7.4	614	<b>12.0</b>	8.7-15.3

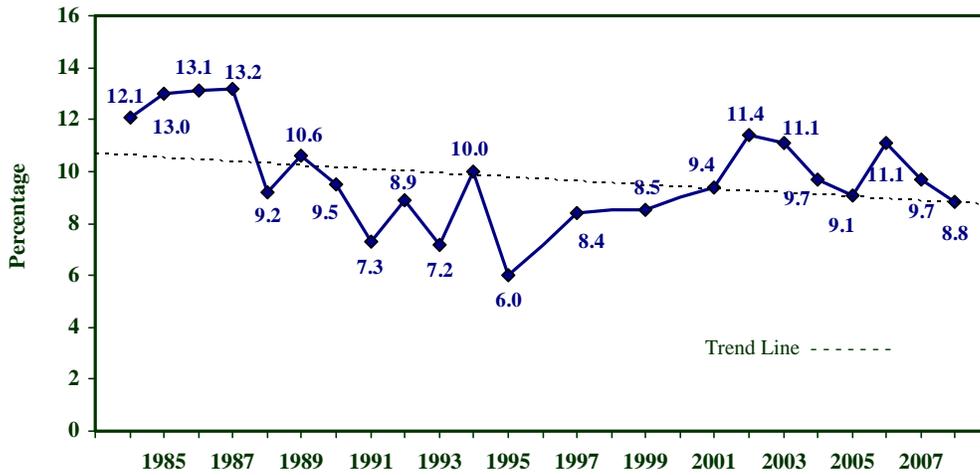
\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Table 9.2 Binge drinking by demographic characteristics: WVBRFSS, 2008**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,553	<b>14.0</b>	11.7-16.3	2,566	<b>3.9</b>	2.9-4.9	4,119	<b>8.8</b>	7.5-10.0
<b>Age</b>									
18-24	61	<b>*22.5</b>	11.3-33.8	75	<b>*4.3</b>	0.1-8.5	136	<b>13.8</b>	7.4-20.2
25-34	169	<b>24.2</b>	17.3-31.2	232	<b>10.5</b>	6.3-14.7	401	<b>17.4</b>	13.3-21.5
35-44	230	<b>15.7</b>	10.6-20.7	345	<b>5.3</b>	2.9-7.7	575	<b>10.4</b>	7.6-13.2
45-54	328	<b>15.4</b>	11.1-19.7	494	<b>3.0</b>	1.4-4.7	822	<b>9.1</b>	6.8-11.4
55-64	372	<b>5.8</b>	3.5-8.1	598	<b>*2.2</b>	0.9-3.5	970	<b>4.0</b>	2.7-5.3
65+	388	<b>*2.8</b>	1.1-4.4	806	<b>*0.2</b>	0.0-0.5	1,194	<b>1.3</b>	0.6-2.0
<b>Education</b>									
Less than H.S.	234	<b>14.1</b>	7.6-20.6	378	<b>*1.4</b>	0.1-2.7	612	<b>7.8</b>	4.3-11.2
H.S. or G.E.D.	626	<b>14.0</b>	10.3-17.7	1,028	<b>4.0</b>	2.4-5.6	1,654	<b>8.8</b>	6.9-10.8
Some Post-H.S.	311	<b>14.2</b>	9.2-19.2	615	<b>4.4</b>	2.2-6.7	946	<b>8.8</b>	6.2-11.5
College Graduate	358	<b>13.7</b>	9.5-17.9	540	<b>4.8</b>	2.7-7.0	898	<b>9.2</b>	6.8-11.6
<b>Income</b>									
Less than \$15,000	152	<b>6.6</b>	2.5-10.7	394	<b>3.9</b>	1.7-6.2	546	<b>4.9</b>	2.8-7.0
\$15,000- 24,999	240	<b>13.4</b>	7.8-18.9	509	<b>3.8</b>	1.9-5.7	749	<b>7.9</b>	5.3-10.6
\$25,000- 34,999	199	<b>14.5</b>	7.1-21.8	318	<b>*1.4</b>	0.1-2.7	517	<b>7.6</b>	3.8-11.3
\$35,000- 49,999	252	<b>13.7</b>	9.0-18.3	333	<b>*4.7</b>	1.5-8.0	585	<b>9.2</b>	6.4-12.1
\$50,000- 74,999	240	<b>14.6</b>	9.1-20.1	329	<b>6.2</b>	2.8-9.7	569	<b>10.6</b>	7.2-13.9
\$75,000+	286	<b>17.4</b>	11.4-23.4	307	<b>5.5</b>	2.5-8.5	593	<b>12.3</b>	8.6-16.1

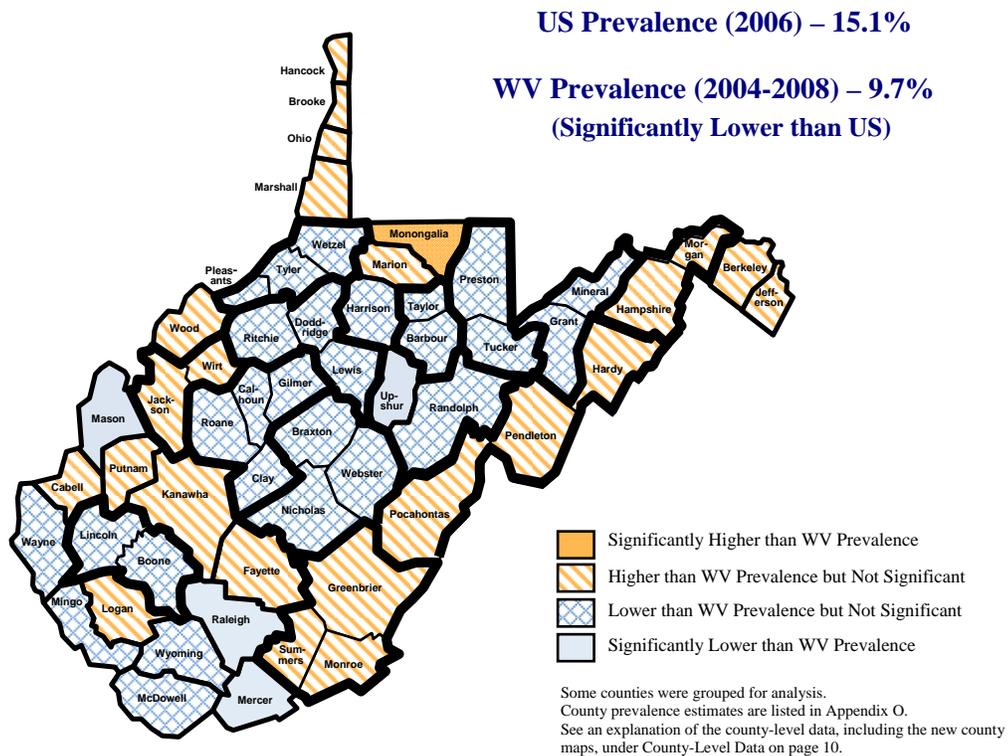
\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Figure 9.1 Binge drinking by year: WVBRFSS, 1984-2008**



NOTE: Data are not available for the years 1996, 1998, and 2000.

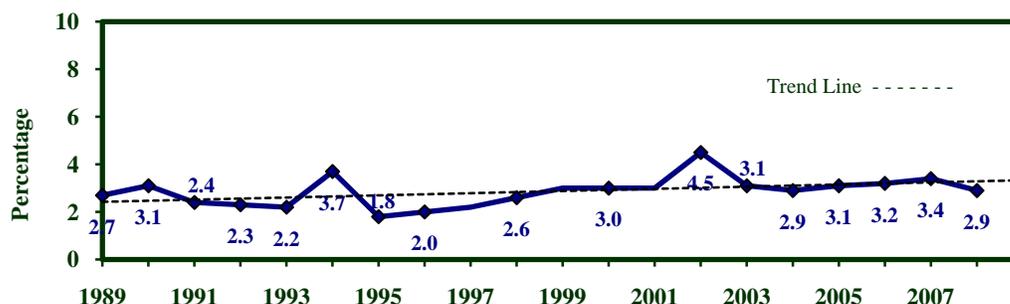
**Figure 9.2 Binge drinking by county: WVBRFSS, 2004-2008**



## Heavy Drinking in 2007 and 2008 <sup>1</sup>

<b>Definition</b>	Consumption of more than two drinks per day for men and more than one drink per day for women during the past one month.
<b>Prevalence</b>	<b>WV: 3.4%</b> (95% CI: 2.7-4.1) in 2007; <b>2.9%</b> (95% CI: 2.2-3.5) in 2008. <b>US: 5.2%</b> (95% CI: 5.0-5.3) in 2007; <b>5.2%</b> (95% CI: 5.0-5.3) in 2008. West Virginia ranked 51 <sup>st</sup> highest among 54 BRFSS participants in 2007 and 54 <sup>th</sup> highest among 54 BRFSS participants in 2008.
<b>Time Trends</b>	From 1989 through 2008, the prevalence of heavy drinking among West Virginia adults has changed little, ranging from a low of 1.8% in 1995 to a high of 4.5% in 2002.
<b>Gender</b>	<b>Men:</b> 5.5% (95% CI: 4.1-6.9) in 2007; 4.2% (95% CI: 3.0-5.5) in 2008. <b>Women:</b> 1.5% (95% CI: 1.0-2.0) in 2007; 1.6% (95% CI: 1.0-2.2) in 2008. The prevalence of heavy drinking was significantly higher among men than women in both 2007 and 2008.
<b>Age</b>	There were no consistent age differences in the prevalence of heavy drinking but those aged 65 and older had the lowest prevalence.
<b>Education</b>	There were also no consistent education differences in the prevalence of heavy drinking.
<b>Household Income</b>	No association was found between heavy drinking and household income.

**Figure 9.3 Heavy drinking by year: WVBRFSS, 1989-2008**



*NOTE: Data are not available for the years 1996, 1998, and 2000.*

### WV HEALTHY PEOPLE 2010 OBJECTIVES

**Objective 26.9** Reduce the rate of heavy drinking reported among adults 18 and older by 20%. (Baseline: 2.2% in 1997 using a new definition; Current: 2.9% in 2008)

<sup>1</sup> Note: Prior to 2001, heavy drinking was defined as consuming 60 or more drinks during the past month regardless of gender. This report redefines the data prior to 2001 to match the current definition of heavy drinking. Therefore, numbers presented in this chapter may not agree with publications prior to 2003.

**Table 9.3 Heavy drinking by demographic characteristics: WVBRFSS, 2007**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,730	<b>5.5</b>	4.1-6.9	2,660	<b>1.5</b>	1.0-2.0	4,390	<b>3.4</b>	2.7-4.1
<b>Age</b>									
18-24	70	<b>*6.4</b>	0.8-12.1	90	<b>*0.8</b>	0.0-2.5	160	<b>*3.7</b>	0.7-6.7
25-34	180	<b>11.0</b>	5.5-16.4	293	<b>*0.7</b>	0.0-1.6	473	<b>5.9</b>	3.0-8.8
35-44	260	<b>6.5</b>	3.3-9.7	382	<b>*3.2</b>	1.3-5.1	642	<b>4.8</b>	3.0-6.7
45-54	362	<b>4.0</b>	2.0-6.1	503	<b>2.1</b>	0.9-3.3	865	<b>3.0</b>	1.9-4.2
55-64	406	<b>3.9</b>	1.9-5.9	548	<b>*1.4</b>	0.4-2.3	954	<b>2.6</b>	1.5-3.8
65+	443	<b>*1.8</b>	0.5-3.0	828	<b>*0.6</b>	0.0-1.2	1,271	<b>1.1</b>	0.5-1.7
<b>Education</b>									
Less than H.S.	269	<b>*4.3</b>	1.3-7.2	406	<b>*1.6</b>	0.2-2.9	675	<b>2.9</b>	1.3-4.6
H.S. or G.E.D.	711	<b>6.8</b>	4.5-9.2	1,050	<b>1.5</b>	0.7-2.3	1,761	<b>4.2</b>	2.9-5.4
Some Post-H.S.	372	<b>*5.9</b>	2.4-9.4	644	<b>*1.8</b>	0.7-2.9	1,016	<b>3.6</b>	1.9-5.4
College Graduate	376	<b>*2.9</b>	1.1-4.7	557	<b>*1.0</b>	0.2-1.7	933	<b>1.9</b>	0.9-2.8
<b>Income</b>									
Less than \$15,000	190	<b>9.9</b>	4.2-15.6	430	<b>*2.4</b>	0.8-3.9	620	<b>5.4</b>	2.8-7.9
\$15,000- 24,999	304	<b>*3.5</b>	1.2-5.7	515	<b>*1.2</b>	0.2-2.1	819	<b>2.2</b>	1.1-3.4
\$25,000- 34,999	232	<b>*5.2</b>	1.6-8.8	312	<b>*1.6</b>	0.2-2.9	544	<b>3.4</b>	1.5-5.4
\$35,000- 49,999	260	<b>8.6</b>	3.7-13.4	383	<b>*2.1</b>	0.4-3.8	643	<b>5.1</b>	2.6-7.6
\$50,000- 74,999	272	<b>*5.3</b>	2.2-8.4	337	<b>*2.1</b>	0.7-3.5	609	<b>3.7</b>	2.0-5.4
\$75,000+	312	<b>*4.2</b>	1.1-7.2	304	<b>*0.6</b>	0.0-1.4	616	<b>*2.7</b>	0.9-4.6

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Table 9.4 Heavy drinking by demographic characteristics: WVBRFSS, 2008**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,538	<b>4.2</b>	3.0-5.5	2,552	<b>1.6</b>	1.0-2.2	4,090	<b>2.9</b>	2.2-3.5
<b>Age</b>									
18-24	60	<b>*4.1</b>	0.0-9.2	75	<b>*2.2</b>	0.0-5.1	135	<b>*3.1</b>	0.1-6.2
25-34	165	<b>*6.4</b>	2.1-10.7	230	<b>*0.8</b>	0.0-2.0	395	<b>*3.6</b>	1.4-5.9
35-44	226	<b>*2.1</b>	0.2-4.0	343	<b>*2.0</b>	0.4-3.6	569	<b>*2.0</b>	0.8-3.3
45-54	327	<b>6.2</b>	3.2-9.2	495	<b>*2.4</b>	0.8-4.0	822	<b>4.3</b>	2.6-5.9
55-64	369	<b>4.7</b>	2.2-7.2	594	<b>2.2</b>	0.9-3.5	963	<b>3.4</b>	2.1-4.8
65+	386	<b>*1.8</b>	0.5-3.1	800	<b>*0.4</b>	0.0-0.9	1,186	<b>*1.0</b>	0.4-1.6
<b>Education</b>									
Less than H.S.	232	<b>*3.7</b>	0.7-6.7	378	<b>*1.4</b>	0.0-3.3	610	<b>*2.5</b>	0.8-4.3
H.S. or G.E.D.	615	<b>4.2</b>	2.3-6.1	1,023	<b>1.8</b>	0.8-2.9	1,638	<b>2.9</b>	1.9-4.0
Some Post-H.S.	329	<b>*5.0</b>	1.7-8.3	609	<b>*1.3</b>	0.4-2.2	938	<b>3.0</b>	1.4-4.6
College Graduate	358	<b>4.0</b>	1.7-6.3	537	<b>*1.6</b>	0.6-2.6	895	<b>2.8</b>	1.5-4.0
<b>Income</b>									
Less than \$15,000	150	<b>*4.5</b>	1.1-7.9	394	<b>*0.9</b>	0.0-1.9	544	<b>2.1</b>	0.8-3.5
\$15,000- 24,999	239	<b>*7.6</b>	3.1-12.2	507	<b>*0.9</b>	0.0-1.8	746	<b>3.8</b>	1.8-5.9
\$25,000- 34,999	197	<b>*2.1</b>	0.0-4.3	317	<b>*1.1</b>	0.0-2.4	514	<b>*1.6</b>	0.4-2.8
\$35,000- 49,999	248	<b>*2.9</b>	0.8-5.0	332	<b>*2.1</b>	0.2-4.0	580	<b>2.5</b>	1.1-3.9
\$50,000- 74,999	241	<b>5.5</b>	2.3-8.6	327	<b>*1.7</b>	0.3-3.2	568	<b>3.7</b>	1.9-5.5
\$75,000+	285	<b>*3.9</b>	0.5-7.3	305	<b>*2.1</b>	0.6-3.7	590	<b>*3.1</b>	1.1-5.2

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

## CHAPTER 10: ORAL HEALTH

### No Teeth Cleaning in the Past Year, 2008

**Definition** Responding with “Longer than a year ago” to the following question: “How long has it been since you had your teeth cleaned by a dentist or dental hygienist?” (The responses reported for this section were limited to those who had not had all their teeth extracted. The totals include those who reported never seeing a dentist.)

**Prevalence** **WV: 38.6%** (95% CI: 36.5-40.6) in 2008.  
**US: 31.7%** (95% CI: 31.4-32.0) in 2008.  
 West Virginia ranked 7<sup>th</sup> highest among 54 BRFSS participants in 2008.

**Gender** **Men:** 42.4% (95% CI: 39.1-45.7) in 2008.  
**Women:** 34.9% (95% CI: 32.4-37.5) in 2008.  
 The prevalence of lack of teeth cleaning in past year was significantly higher among men than women.

**Age, Education, and Household Income** Only slight differences in the prevalence of this risk factor were observed with the different age groups. Higher levels of educational attainment and income were associated with better dental habits. The highest prevalence of this risk factor was among those with less than a high school education, in households with an annual income of less than \$15,000, and in the 25-34 age group.

**Table 10.1 No Teeth Cleaning by a Dentist or Dental Hygienist in the Past Year: WVBRFSS, 2008**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,294	<b>42.4</b>	39.1-45.7	2,065	<b>34.9</b>	32.4-37.5	3,359	<b>38.6</b>	36.5-40.6
<b>Age</b>									
18-24	60	<b>*45.2</b>	31.7-58.8	75	<b>*39.9</b>	28.2-51.5	135	<b>42.7</b>	33.7-51.7
25-34	166	<b>49.6</b>	41.6-57.6	227	<b>38.8</b>	32.1-45.5	393	<b>44.3</b>	39.0-49.6
35-44	222	<b>42.8</b>	35.9-49.7	333	<b>35.6</b>	30.0-41.3	555	<b>39.2</b>	34.7-43.7
45-54	296	<b>41.8</b>	35.7-47.9	456	<b>37.3</b>	32.4-42.2	752	<b>39.4</b>	35.6-43.3
55-64	300	<b>37.4</b>	31.5-43.3	469	<b>30.0</b>	25.6-34.4	769	<b>33.7</b>	30.0-37.4
65+	246	<b>35.5</b>	29.1-42.0	490	<b>27.8</b>	23.6-32.1	736	<b>31.1</b>	27.4-34.8
<b>Education</b>									
Less than H.S.	137	<b>66.9</b>	57.2-76.5	188	<b>59.9</b>	50.7-69.2	325	<b>63.6</b>	56.8-70.3
H.S. or G.E.D.	506	<b>51.3</b>	45.9-56.7	793	<b>39.3</b>	35.1-43.5	1,299	<b>45.3</b>	41.8-48.7
Some Post-H.S.	302	<b>38.4</b>	31.9-44.9	553	<b>31.9</b>	27.1-36.7	855	<b>34.9</b>	30.9-38.8
College Graduate	346	<b>21.3</b>	16.4-26.2	528	<b>21.3</b>	17.0-25.6	874	<b>21.3</b>	18.0-24.5
<b>Income</b>									
Less than \$15,000	92	<b>74.0</b>	64.2-83.8	237	<b>66.3</b>	58.0-74.6	329	<b>69.0</b>	62.5-75.4
\$15,000- 24,999	176	<b>61.7</b>	52.7-70.7	342	<b>48.2</b>	41.4-55.0	518	<b>54.3</b>	48.8-59.9
\$25,000- 34,999	151	<b>51.8</b>	42.3-61.2	268	<b>40.0</b>	32.6-47.3	419	<b>45.3</b>	39.3-51.2
\$35,000- 49,999	224	<b>39.9</b>	32.5-47.2	310	<b>36.3</b>	29.6-43.0	534	<b>38.1</b>	33.1-43.1
\$50,000- 74,999	230	<b>35.6</b>	28.0-43.1	318	<b>19.8</b>	14.7-24.9	548	<b>28.1</b>	23.3-32.8
\$75,000+	280	<b>21.0</b>	15.4-26.6	309	<b>12.7</b>	8.4-17.0	589	<b>17.4</b>	13.7-21.1

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

## Other Dental Issues in 2008

**Table 10.2 No visit to a dentist or dental clinic in the past year for any reason by demographic characteristics: WVBRFSS, 2008**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,315	<b>39.0</b>	36.1-42.0	2,113	<b>36.1</b>	33.8-38.4	3,428	<b>37.5</b>	35.6-39.4
<b>Age</b>									
18-24	61	<b>*39.3</b>	26.2-52.4	75	<b>*29.9</b>	19.2-40.6	136	<b>34.9</b>	26.2-43.5
25-34	172	<b>43.1</b>	35.2-51.0	232	<b>33.2</b>	26.7-39.6	404	<b>38.2</b>	33.1-43.4
35-44	234	<b>36.9</b>	30.3-43.4	347	<b>31.9</b>	26.5-37.3	581	<b>34.4</b>	30.1-38.6
45-54	336	<b>41.9</b>	36.1-47.6	502	<b>33.4</b>	28.9-38.0	838	<b>37.6</b>	33.9-41.2
55-64	377	<b>43.5</b>	38.1-48.9	598	<b>39.0</b>	34.8-43.3	975	<b>41.3</b>	37.8-44.7
65+	393	<b>50.7</b>	45.3-56.0	802	<b>44.6</b>	40.9-48.3	1,195	<b>47.2</b>	44.0-50.3
<b>Education</b>									
Less than H.S.	236	<b>62.6</b>	54.6-70.7	376	<b>62.4</b>	55.8-68.9	612	<b>62.5</b>	57.3-67.7
H.S. or G.E.D.	633	<b>50.3</b>	45.5-55.1	1,028	<b>39.2</b>	35.6-42.8	1,661	<b>44.6</b>	41.6-47.6
Some Post-H.S.	342	<b>37.5</b>	31.5-43.6	621	<b>31.1</b>	26.7-35.6	963	<b>34.0</b>	30.4-37.7
College Graduate	363	<b>20.7</b>	15.9-25.4	543	<b>18.8</b>	14.8-22.7	906	<b>19.7</b>	16.6-22.8
<b>Income</b>									
Less than \$15,000	154	<b>67.2</b>	58.7-75.7	394	<b>66.1</b>	59.8-72.3	548	<b>66.5</b>	61.4-71.5
\$15,000- 24,999	243	<b>60.2</b>	52.4-68.0	508	<b>47.1</b>	41.7-52.5	751	<b>52.8</b>	48.2-57.5
\$25,000- 34,999	201	<b>56.7</b>	48.7-64.7	318	<b>40.8</b>	34.2-47.5	519	<b>48.3</b>	43.1-53.6
\$35,000- 49,999	255	<b>38.3</b>	31.5-45.1	337	<b>32.7</b>	26.5-38.9	592	<b>35.5</b>	30.9-40.2
\$50,000- 74,999	244	<b>30.5</b>	23.4-37.7	331	<b>17.6</b>	13.0-22.2	575	<b>24.4</b>	19.9-28.8
\$75,000+	290	<b>19.1</b>	13.7-24.4	311	<b>10.9</b>	7.0-14.9	601	<b>15.6</b>	12.1-19.2

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Table 10.3 Permanent natural teeth risks by demographic characteristics: WVBRFSS, 2008**

Characteristic	No Teeth Missing (all ages)			6 or More Teeth Missing (all ages)			All Teeth Missing (aged 65 and over only)		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	4,126	<b>39.7</b>	37.8-41.7	4,126	<b>30.9</b>	29.3-32.5	1,185	<b>37.8</b>	34.8-40.9
<b>Males</b>	1,568	<b>41.6</b>	38.6-44.7	1,568	<b>29.5</b>	27.0-31.9	387	<b>37.3</b>	32.1-42.5
<b>Females</b>	2,558	<b>38.0</b>	35.5-40.4	2,558	<b>32.3</b>	30.3-34.3	798	<b>38.3</b>	34.6-41.9
<b>Age</b>									
18-24	136	<b>84.4</b>	77.9-91.0	136	<b>*2.5</b>	0.0-5.5			
25-34	401	<b>60.6</b>	55.4-65.7	401	<b>9.4</b>	6.3-12.5			
35-44	579	<b>51.4</b>	47.0-55.9	579	<b>13.3</b>	10.3-16.4			
45-54	832	<b>33.5</b>	30.0-37.1	832	<b>31.3</b>	27.8-34.8			
55-64	973	<b>19.5</b>	16.9-22.2	973	<b>47.7</b>	44.2-51.2			
65+	1,185	<b>9.8</b>	8.0-11.6	1,185	<b>65.6</b>	62.6-68.6	1,185	<b>37.8</b>	34.8-40.9
<b>Education</b>									
Less than H.S.	610	<b>18.6</b>	13.5-23.6	610	<b>61.9</b>	56.5-67.4	282	<b>59.4</b>	53.1-65.8
H.S. or G.E.D.	1,650	<b>31.7</b>	28.4-35.0	1,650	<b>36.1</b>	33.4-38.8	501	<b>37.8</b>	33.2-42.4
Some Post-H.S.	954	<b>46.4</b>	42.4-50.4	954	<b>22.4</b>	19.5-25.2	237	<b>30.0</b>	23.3-36.7
College Graduate	903	<b>61.6</b>	58.0-65.2	903	<b>10.1</b>	8.1-12.2	160	<b>12.8</b>	6.9-18.6
<b>Income</b>									
Less than \$15,000	546	<b>17.7</b>	13.0-22.4	546	<b>60.7</b>	55.3-66.2	218	<b>61.8</b>	54.7-68.9
\$15,000- 24,999	750	<b>26.6</b>	21.8-31.4	750	<b>47.7</b>	43.2-52.3	301	<b>43.1</b>	37.0-49.3
\$25,000- 34,999	515	<b>30.3</b>	24.9-35.7	515	<b>38.5</b>	33.6-43.4	170	<b>32.7</b>	24.9-40.5
\$35,000- 49,999	589	<b>38.1</b>	33.3-43.0	589	<b>24.1</b>	20.3-27.9	117	<b>23.6</b>	15.3-31.9
\$50,000- 74,999	569	<b>54.6</b>	49.8-59.4	569	<b>15.0</b>	12.0-18.1	73	<b>*8.2</b>	1.7-14.7
\$75,000+	596	<b>60.6</b>	56.2-65.1	596	<b>8.9</b>	6.5-11.3	56	<b>*7.1</b>	0.0-15.1

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

## CHAPTER 11: IMMUNIZATION

### Adults Aged 65 or Older Lacking a Flu or Pneumonia Immunization

<b>Definition</b>	<p><b>No Flu Immunization:</b> Responding “No” to both of the following questions: “A flu shot is an influenza vaccine injected in your arm. During the past 12 months, have you had a flu shot? During the past 12 months, have you had a flu vaccine that was sprayed in your nose? The flu vaccine that is sprayed in the nose is also called FluMist™.”</p> <p><b>No Pneumonia Immunization:</b> Responding “No” to the following question: “Have you ever had a pneumonia shot? A pneumonia shot or pneumococcal vaccine is usually given only once or twice in a person's lifetime and is different from the flu shot.”</p> <p><i>The responses reported for this section were limited to those aged 65 or older.</i></p>
<b>Prevalence</b>	<p><b>No Flu Immunization</b></p> <p><b>WV:</b> 29.3% (95% CI: 26.5-32.0) in 2007; 28.9% (95% CI: 26.1-31.6) in 2008. <b>US:</b> 29.6% (95% CI: 29.1-30.1) in 2007; 30.4% (95% CI: 29.9-30.8) in 2008. <b>West Virginia</b> ranked 23<sup>rd</sup> highest among 54 BRFSS participants 2007, and ranked 28<sup>th</sup> highest among 54 BRFSS participants in 2008.</p> <p><b>No Pneumonia Immunization</b></p> <p><b>WV:</b> 32.7% (95% CI: 29.9-35.6) in 2007; 31.8% (95% CI: 28.9-34.7) in 2008. <b>US:</b> 34.7% (95% CI: 34.1-35.2) in 2007; 34.6% (95% CI: 34.1-35.1) in 2008. <b>West Virginia</b> ranked 29<sup>th</sup> highest among 54 BRFSS participants in 2007, and ranked 33<sup>rd</sup> highest among 54 BRFSS participants in 2008.</p>
<b>Trends</b>	<p>The long-term trend has seen notable improvement in these risk factors and the prevalence continued to decline in 2007 and 2008.</p>
<b>Gender</b>	<p><b>Flu Immunization</b></p> <p><b>Men:</b> 29.3% (95% CI: 24.7-33.8) in 2007; 26.4% (95% CI: 21.8-31.0) in 2008. <b>Women:</b> 29.3% (95% CI: 25.9-32.6) in 2007; 30.7% (95% CI: 27.2-34.1) in 2008. There were no gender differences in flu immunization.</p> <p><b>Pneumonia Immunization</b></p> <p><b>Men:</b> 33.9% (95% CI: 29.2-38.6) in 2007; 31.0% (95% CI: 26.1-35.9) in 2008. <b>Women:</b> 31.9% (95% CI: 28.4-35.4) in 2007; 32.4% (95% CI: 28.9-36.0) in 2008. There were no gender differences in pneumonia immunization.</p>

#### WV HEALTHY PEOPLE 2010 OBJECTIVES

<b>Objective 14.13a</b>	Increase the proportion of noninstitutionalized adults 65+ years who are vaccinated for: 14.13a.1 Influenza to 90%. (Baseline: 58.2% in 1997; Current: 71.1% in 2008) 14.13a.2 Pneumococcal disease to 90%. (Baseline: 41.3% in 1997; Current: 68.2% in 2008)
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**Table 11.1 No immunizations among adults aged 65 and older by demographic characteristics: WVBRFSS, 2007**

Characteristic	No Flu Immunization in Past 12 Months			Never Had Pneumonia Immunization		
	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,287	<b>29.3</b>	26.5-32.0	1,268	<b>32.7</b>	29.9-35.6
Males	450	<b>29.3</b>	24.7-33.8	444	<b>33.9</b>	29.2-38.6
Females	837	<b>29.3</b>	25.9-32.6	824	<b>31.9</b>	28.4-35.4
<b>Age</b>						
65+	1,287	<b>29.3</b>	26.5-32.0	1,268	<b>32.7</b>	29.9-35.6
<b>Education</b>						
Less than H.S.	336	<b>36.2</b>	30.4-42.0	332	<b>33.4</b>	27.8-39.0
H.S. or G.E.D.	519	<b>28.1</b>	24.0-32.3	516	<b>35.2</b>	30.6-39.7
Some Post-H.S.	230	<b>28.7</b>	22.4-35.0	223	<b>29.9</b>	23.3-36.5
College Graduate	199	<b>21.4</b>	15.4-27.5	194	<b>28.3</b>	21.4-35.2
<b>Income</b>						
Less than \$15,000	231	<b>33.5</b>	26.8-40.2	229	<b>32.4</b>	25.8-39.0
\$15,000- 24,999	327	<b>32.8</b>	26.9-38.6	326	<b>37.4</b>	31.6-43.3
\$25,000- 34,999	176	<b>29.8</b>	22.6-37.0	173	<b>32.0</b>	24.6-39.5
\$35,000-49,999	150	<b>27.7</b>	20.0-35.4	148	<b>27.8</b>	19.9-35.7
\$50,000-74,000	69	<b>*23.8</b>	13.1-34.5	66	<b>*30.9</b>	18.9-42.8
\$75,000+	65	<b>*24.1</b>	13.1-35.1	63	<b>*44.2</b>	31.0-57.4

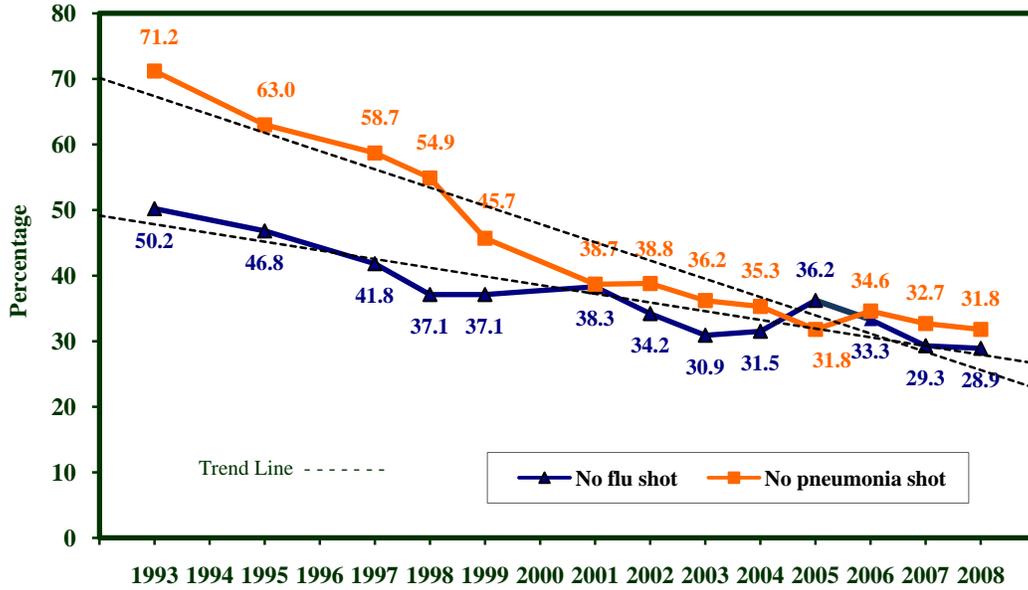
\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Table 11.2 No immunizations among adults aged 65 and older by demographic characteristics: WVBRFSS, 2008**

Characteristic	No Flu Immunization in Past 12 Months			Never Had Pneumonia Immunization		
	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,203	<b>28.9</b>	26.1-31.6	1,184	<b>31.8</b>	28.9-34.7
Males	394	<b>26.4</b>	21.8-31.0	384	<b>31.0</b>	26.1-35.9
Females	809	<b>30.7</b>	27.2-34.1	800	<b>32.4</b>	28.9-36.0
<b>Age</b>						
65+	1,203	<b>28.9</b>	26.1-31.6	1,184	<b>31.8</b>	28.9-34.7
<b>Education</b>						
Less than H.S.	288	<b>35.6</b>	29.5-41.7	282	<b>38.7</b>	32.4-45.0
H.S. or G.E.D.	505	<b>28.2</b>	23.9-32.5	498	<b>32.1</b>	27.7-36.6
Some Post-H.S.	241	<b>24.4</b>	18.6-30.1	237	<b>24.6</b>	18.8-30.5
College Graduate	164	<b>24.8</b>	17.5-32.0	162	<b>28.7</b>	21.1-36.3
<b>Income</b>						
Less than \$15,000	219	<b>36.0</b>	29.1-42.9	213	<b>30.9</b>	24.1-37.7
\$15,000- 24,999	303	<b>29.0</b>	23.5-34.6	299	<b>32.4</b>	26.6-38.3
\$25,000- 34,999	173	<b>25.5</b>	18.3-32.7	168	<b>27.8</b>	20.6-35.1
\$35,000-49,999	119	<b>26.0</b>	17.8-34.2	118	<b>31.2</b>	22.4-40.0
\$50,000-74,000	74	<b>*23.7</b>	13.0-34.4	74	<b>*33.7</b>	21.9-45.4
\$75,000+	57	<b>*31.7</b>	18.9-44.6	57	<b>*30.9</b>	18.3-43.5

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Figure 11.1 No flu immunization (in past 12 months) and no pneumonia immunization (in lifetime) among adults aged 65 and older by year: WVBRFSS, 1993-2008**



NOTE: Data are not available for the years 1994, 1996, and 2000.

## CHAPTER 12: COLORECTAL CANCER SCREENING

### Home Stool Blood Testing and Sigmoidoscopy or Colonoscopy in 2008

<b>Definition</b>	<p><b>No home stool blood testing</b> No home stool blood testing (or fecal occult blood testing, FOBT) in the past two years among adults aged 50 and older.</p> <p><b>No sigmoidoscopy or colonoscopy</b> Adults aged 50 and older who have never had a sigmoidoscopy or colonoscopy.</p>
<b>Prevalence</b>	<p><b>No home stool blood testing</b> <b>WV: 78.1%</b> (95% CI: 76.3-79.9) in 2008; <b>US: 78.2%</b> (95% CI: 77.9-78.5). West Virginia ranked 33<sup>rd</sup> highest among 54 BRFSS participants in 2008.</p> <p><b>No sigmoidoscopy or colonoscopy</b> <b>WV: 45.3%</b> (95% CI: 43.2-47.4) in 2008; <b>US: 37.7%</b> (95% CI: 37.3-38.0). West Virginia ranked 5<sup>th</sup> highest among 54 BRFSS participants in 2008.</p>
<b>Gender</b>	<p><b>No home stool blood testing</b> <b>Men:</b> 74.3% (95% CI: 71.2-77.4) in 2008. <b>Women:</b> 81.4% (95% CI: 79.3-83.4) in 2008. This risk was significantly higher among women than men.</p> <p><b>No sigmoidoscopy or colonoscopy</b> <b>Men:</b> 45.9% (95% CI: 42.5-49.4) in 2008. <b>Women:</b> 44.7% (95% CI: 42.1-47.3) in 2008. Not having had a sigmoidoscopy or colonoscopy did not differ by gender.</p>

#### WV HEALTHY PEOPLE 2010 OBJECTIVES

<b>Objective 3.7</b>	Attain a level of at least 50% of people aged 50 and older who have received a colorectal screening examination (fecal occult blood testing) within the preceding 1-2 years (Current: 21.9% in 2008) and increase to at least 40% those who have ever received proctosigmoidoscopy. (Baseline for proctosigmoidoscopy: 34.4% in 1997; Current: 54.7% in 2008)
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**Table 12.1 No colorectal cancer screening among adults aged 50 and over by demographic characteristics: WVBRFSS, 2008**

Characteristic	Adults who did not have a home stool blood test in the past two years			Adults who have never had a sigmoidoscopy or colonoscopy		
	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	2,573	<b>78.1</b>	76.3-79.9	2,604	<b>45.3</b>	43.2-47.4
Males	926	<b>74.3</b>	71.2-77.4	937	<b>45.9</b>	42.5-49.4
Females	1,647	<b>81.4</b>	79.3-83.4	1,667	<b>44.7</b>	42.1-47.3
<b>Age</b>						
50-54	437	<b>85.4</b>	81.6-89.2	438	<b>58.1</b>	53.0-63.2
55-64	960	<b>78.4</b>	75.3-81.3	974	<b>45.1</b>	41.6-48.5
65+	1,176	<b>74.4</b>	71.6-77.2	1,192	<b>39.2</b>	36.2-42.2
<b>Education</b>						
Less than H.S.	442	<b>81.2</b>	77.2-85.2	448	<b>53.0</b>	47.8-58.2
H.S. or G.E.D.	1,080	<b>77.9</b>	75.2-80.7	1,093	<b>47.3</b>	44.0-50.6
Some Post-H.S.	549	<b>78.0</b>	74.1-82.0	559	<b>41.2</b>	36.7-45.7
College Graduate	496	<b>75.7</b>	71.3-80.2	498	<b>39.2</b>	34.4-44.0
<b>Income</b>						
Less than \$15,000	377	<b>77.6</b>	72.7-82.4	381	<b>47.9</b>	42.3-53.5
\$15,000- 24,999	533	<b>78.0</b>	74.1-82.0	542	<b>50.2</b>	45.4-54.9
\$25,000- 34,999	342	<b>79.3</b>	74.7-84.0	345	<b>45.9</b>	40.1-51.7
\$35,000-49,999	334	<b>78.4</b>	73.7-83.1	339	<b>45.1</b>	39.4-50.8
\$50,000-74,000	294	<b>78.4</b>	73.2-83.6	293	<b>37.4</b>	31.3-43.5
\$75,000+	300	<b>73.9</b>	68.2-79.7	302	<b>35.9</b>	29.9-41.8

## CHAPTER 13: PROSTATE CANCER SCREENING

### Digital Rectal Exam and PSA Test in 2008

#### Definition

##### **No digital rectal exam**

Men aged 40 years and older who have never had a digital rectal exam

##### **No Prostate Specific Antigen (PSA) test**

Men aged 40 years and older who have never had a PSA test (prostate specific antigen).

#### Prevalence

##### **No digital rectal exam**

**WV: 34.0%** (95% CI: 31.0-37.0) in 2008.

**US: 25.6%** (95% CI: 25.1-26.1) in 2008.

West Virginia ranked 5<sup>th</sup> highest among 54 BRFSS participants in 2008.

##### **No Prostate Specific Antigen (PSA) test**

**WV: 34.2%** (95% CI: 31.1-37.2) in 2008.

**US: 35.4%** (95% CI: 34.8-35.9) in 2008.

West Virginia ranked 31<sup>st</sup> highest among 54 BRFSS participants in 2008.

**Table 15.1 No prostate cancer screening among males aged 40 and older by demographic characteristics: WVBRFSS, 2008**

Characteristic	Adult males aged 40 and older who have never had a digital rectal exam			Adult males aged 40 and older who have never had a PSA test		
	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>Males</b>	1,212	<b>34.0</b>	31.0-37.0	1,165	<b>34.2</b>	31.1-37.2
<b>Age</b>						
40-44	119	<b>56.0</b>	46.4-65.5	110	<b>70.6</b>	61.3-79.9
45-54	333	<b>43.9</b>	38.1-49.6	326	<b>48.9</b>	43.0-54.8
55-64	373	<b>26.6</b>	21.7-31.5	361	<b>20.6</b>	16.2-24.9
65+	387	<b>19.2</b>	14.9-23.4	368	<b>12.8</b>	9.0-16.5
<b>Education</b>						
Less than H.S.	200	<b>43.1</b>	35.5-50.8	187	<b>44.6</b>	36.7-52.5
H.S. or G.E.D.	486	<b>31.7</b>	27.1-36.3	470	<b>34.1</b>	29.3-38.8
Some Post-H.S.	251	<b>35.1</b>	28.4-41.8	240	<b>32.8</b>	26.0-39.7
College Graduate	272	<b>30.3</b>	24.4-36.3	265	<b>28.2</b>	22.1-34.3
<b>Income</b>						
Less than \$15,000	127	<b>36.7</b>	27.1-46.3	118	<b>34.4</b>	24.8-44.0
\$15,000- 24,999	200	<b>43.2</b>	35.6-50.8	192	<b>35.3</b>	27.8-42.9
\$25,000- 34,999	170	<b>35.0</b>	27.1-43.0	165	<b>36.2</b>	28.0-44.5
\$35,000-49,999	197	<b>32.7</b>	25.6-39.8	190	<b>36.8</b>	29.2-44.3
\$50,000-74,000	167	<b>35.3</b>	27.1-43.5	161	<b>31.2</b>	22.9-39.5
\$75,000+	206	<b>28.2</b>	21.5-35.0	202	<b>30.3</b>	23.4-37.3

## CHAPTER 14: BREAST AND CERVICAL CANCER SCREENING

### Clinical Breast Exam, Mammogram, or Pap Smear in 2008

#### Definitions

##### **No Clinical Breast Exam**

Women aged 40 years and older who did not have a clinical breast exam (CBE) in the past one year.

##### **No Mammogram**

Women aged 40 years and older who did not have a mammogram in the past two years.

##### **No Pap Test in the Past Three Years**

No Pap test in the past three years among women aged 18 and older.

##### **Never Had a Pap Test**

Women aged 18 and older who have never had a Pap test.

#### Prevalence

##### ***No Clinical Breast Exam***

**WV: 36.6%** (95% CI: 34.3-38.9) in 2008.

**US: 35.1%** (95% CI: 34.7-35.4) in 2008.

West Virginia ranked 24<sup>th</sup> highest among 54 BRFSS participants in 2008.

##### ***No Mammogram***

**WV: 26.3%** (95% CI: 24.2-28.5) in 2008.

**US: 23.2%** (95% CI: 22.9-23.6) in 2008.

West Virginia ranked 17<sup>th</sup> highest among 54 BRFSS participants in 2008.

##### ***No Pap Test in the Past Three Years***

**WV: 19.2%** (95% CI: 16.8-21.6) in 2008.

**US: 17.1%** (95% CI: 16.7-17.5) in 2008.

West Virginia ranked 12<sup>th</sup> highest among 54 BRFSS participants in 2008.

##### ***Never Had a Pap Test***

**WV: 5.4%** (95% CI: 3.9-6.8) in 2008.

**US: 6.7%** (95% CI: 6.5-7.0) in 2008.

West Virginia ranked 33<sup>rd</sup> highest among 54 BRFSS participants in 2008.

#### WV HEALTHY PEOPLE 2010 OBJECTIVES

##### **Objective 3.6**

Increase to at least 95% the proportion of women aged 18 and older who have ever received a Pap test and to at least 85% those who received a Pap test within the preceding three years. (Baseline: 93.4% and 78.9%, respectively, in 1997; Current: 94.6% and 80.8%, respectively, in 2008)

**Table 14.1 No breast cancer screening among women aged 40 and older by demographic characteristics: WVBRFSS, 2008**

Characteristic	Adult females aged 40 and older who have not had a clinical breast exam (CBE) in the past one year			Adult females aged 40 and older who have not had a mammogram in the past two years		
	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>Females</b>	2,055	<b>36.6</b>	34.3-38.9	2,071	<b>26.3</b>	24.2-28.5
<b>Age</b>						
40-44	181	<b>33.3</b>	25.7-40.9	181	<b>39.8</b>	32.0-47.6
45-54	501	<b>33.0</b>	28.4-37.5	501	<b>26.6</b>	22.3-30.8
55-64	593	<b>32.5</b>	28.4-36.5	594	<b>18.9</b>	15.6-22.3
65+	780	<b>44.0</b>	40.2-47.8	795	<b>26.3</b>	23.0-29.6
<b>Education</b>						
Less than H.S.	325	<b>51.3</b>	45.2-57.5	328	<b>39.9</b>	33.9-45.9
H.S. or G.E.D.	838	<b>37.9</b>	34.2-41.5	846	<b>27.8</b>	24.4-31.3
Some Post-H.S.	491	<b>31.9</b>	27.4-36.5	493	<b>20.9</b>	16.8-25.0
College Graduate	397	<b>28.0</b>	23.2-32.8	400	<b>19.2</b>	14.9-23.4
<b>Income</b>						
Less than \$15,000	332	<b>51.7</b>	45.7-57.7	336	<b>42.6</b>	36.7-48.6
\$15,000- 24,999	422	<b>46.8</b>	41.5-52.2	428	<b>30.1</b>	25.2-34.9
\$25,000- 34,999	255	<b>39.3</b>	32.5-46.0	256	<b>27.5</b>	21.0-34.0
\$35,000-49,999	259	<b>27.8</b>	21.8-33.9	260	<b>23.7</b>	17.6-29.9
\$50,000-74,000	254	<b>23.7</b>	18.2-29.1	254	<b>18.7</b>	13.6-23.9
\$75,000+	233	<b>24.4</b>	18.4-30.4	233	<b>16.1</b>	11.0-21.1

**Figure 14.1 No mammography in past two years among women aged 40 and older: WVBRFSS, 1990-2008**



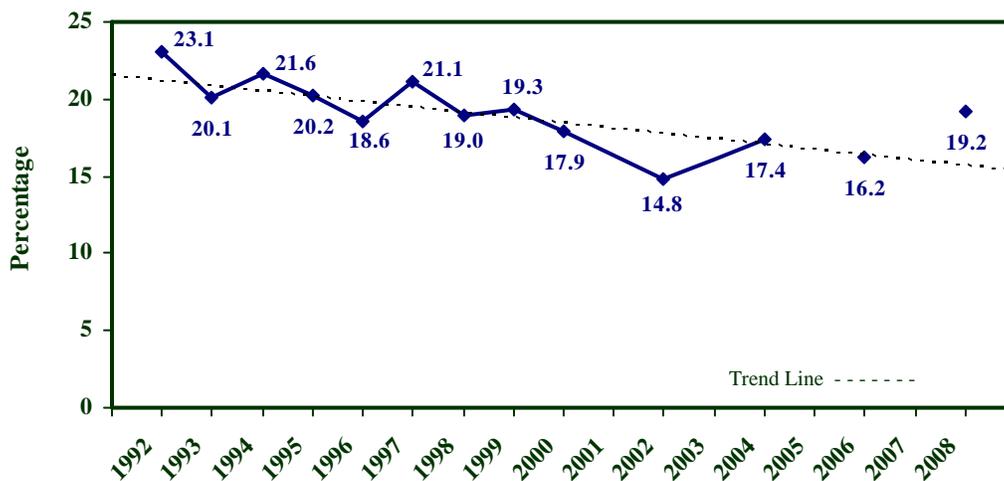
NOTE: Data are not available for the years 2001, 2003, 2005, and 2007.

**Table 14.2 No cervical cancer screening by demographic characteristics: WVBRFSS, 2008**

Characteristic	Adult females aged 18 and older who have not had a Pap test in the past three years			Adult females aged 18 and older who have never had a Pap test		
	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>Females</b>	1,703	<b>19.2</b>	16.8-21.6	2,574	<b>5.4</b>	3.9-6.8
<b>Age</b>						
18-24	76	<b>*22.5</b>	11.8-33.3	76	<b>*22.0</b>	11.3-32.7
25-34	224	<b>11.2</b>	6.8-15.7	232	<b>*2.4</b>	0.6-4.2
35-44	285	<b>17.1</b>	12.2-22.0	348	<b>*1.9</b>	0.5-3.4
45-54	342	<b>16.2</b>	11.9-20.6	500	<b>*1.1</b>	0.3-1.9
55-64	351	<b>15.9</b>	11.8-20.1	598	<b>3.8</b>	2.2-5.5
65+	425	<b>34.5</b>	29.6-39.4	803	<b>6.5</b>	4.8-8.3
<b>Education</b>						
Less than H.S.	217	<b>37.2</b>	28.5-45.9	376	<b>10.1</b>	4.9-15.4
H.S. or G.E.D.	652	<b>22.5</b>	18.4-26.6	1,028	<b>5.5</b>	3.2-7.8
Some Post-H.S.	411	<b>14.3</b>	9.7-18.8	621	<b>*4.5</b>	1.8-7.3
College Graduate	421	<b>9.9</b>	6.6-13.2	545	<b>*2.9</b>	0.9-5.0
<b>Income</b>						
Less than \$15,000	226	<b>37.7</b>	29.1-46.4	394	<b>9.6</b>	4.3-14.9
\$15,000- 24,999	304	<b>23.5</b>	17.6-29.3	508	<b>6.8</b>	3.7-9.9
\$25,000- 34,999	229	<b>18.7</b>	13.0-24.4	315	<b>3.2</b>	1.4-5.1
\$35,000-49,999	236	<b>14.4</b>	9.0-19.8	337	<b>*2.0</b>	0.0-4.4
\$50,000-74,000	238	<b>10.4</b>	5.2-15.6	331	<b>*1.9</b>	0.0-4.4
\$75,000+	244	<b>11.5</b>	5.6-17.4	311	<b>*4.3</b>	0.0-8.7

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Figure 14.2 No Pap test in past three years: WVBRFSS, 1992-2008**



NOTE: Data are not available for the years 2001, 2003, 2005, and 2007.

## CHAPTER 15: CARDIOVASCULAR DISEASE

### Heart Attack, Angina, and Stroke in 2007 and 2008

**Definition** Responding “Yes” to the following: “Has a doctor, nurse, or other health professional ever told you that you had any of the following? For each, tell me ‘yes,’ ‘no,’ or ‘not sure’.” The follow-up questions were “. . . ever told you had a heart attack, also called a myocardial infarction?” “. . . ever told you had angina or coronary heart disease?” “. . . ever told you had a stroke?”

#### Prevalence

##### Heart Attack

**WV:** 6.0% (95% CI: 5.3-6.7) in 2007; 7.7% (95% CI: 6.8-8.5) in 2008.

**US:** 4.2% (95% CI: 4.1-4.3) in 2007; 4.3% (95% CI: 4.2-4.4) in 2008.

West Virginia ranked 2<sup>nd</sup> highest among 54 BRFSS participants in 2007 and 1<sup>st</sup> highest among 54 BRFSS participants in 2008.

##### Angina

**WV:** 7.6% (95% CI: 6.8-8.4) in 2007; 8.1% (95% CI: 7.3-9.0) in 2008.

**US:** 4.3% (95% CI: 4.2-4.4) in 2007; 4.4% (95% CI: 4.3-4.5) in 2008.

West Virginia ranked 1<sup>st</sup> highest among 54 BRFSS participants in 2007 and 1<sup>st</sup> highest among 54 BRFSS participants in 2008.

##### Stroke

**WV:** 3.2% (95% CI: 2.7-3.7) in 2007; 4.3% (95% CI: 3.7-4.9) in 2008.

**US:** 2.7% (95% CI: 2.6-2.8) in 2007; 2.7% (95% CI: 2.6-2.8) in 2008.

West Virginia ranked 9<sup>th</sup> highest among 54 BRFSS participants in 2007 and 1<sup>st</sup> highest among 54 BRFSS participants in 2008.

#### Gender

##### *Heart Attack differences by gender*

**Men:** 7.6% (95% CI: 6.4-8.9) in 2007; 9.5% (95% CI: 8.0-11.0) in 2008.

**Women:** 4.4% (95% CI: 3.6-5.1) in 2007; 6.0% (95% CI: 5.0-6.9) in 2008.

Men had a significantly higher prevalence of heart attack than women.

##### *Angina differences by gender*

**Men:** 7.9% (95% CI: 6.7-9.1) in 2007; 7.9% (95% CI: 6.6-9.2) in 2008.

**Women:** 7.3% (95% CI: 6.3-8.3) in 2007; 8.4% (95% CI: 7.3-9.4) in 2008.

There was no significant gender difference in the prevalence of angina.

##### *Stroke differences by gender*

**Men:** 2.7% (95% CI: 2.0-3.4) in 2007; 3.6% (95% CI: 2.7-4.5) in 2008.

**Women:** 3.7% (95% CI: 3.0-4.4) in 2007; 4.9% (95% CI: 4.1-5.8) in 2008.

There was no significant gender difference in stroke prevalence.

#### Age, Education, & Household Income

Those aged 65 and older experienced heart attack, angina, and stroke significantly more often than most younger age groups. Adults with less than a high school education carried a significantly higher risk of heart attack, angina, and stroke than those with more education. Heart attack, angina, and stroke were significantly more common among the lowest income groups than among those with the highest household incomes.

**Table 15.1 Heart attack, angina, or stroke by demographic characteristics: WVBRFSS, 2007**

Characteristic	Heart Attack or Myocardial Infarction			Angina or Coronary Heart Disease			Stroke		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	4,426	<b>6.0</b>	5.3-6.7	4,411	<b>7.6</b>	6.8-8.4	4,436	<b>3.2</b>	2.7-3.7
Males	1,752	<b>7.6</b>	6.4-8.9	1,745	<b>7.9</b>	6.7-9.1	1,758	<b>2.7</b>	2.0-3.4
Females	2,674	<b>4.4</b>	3.6-5.1	2,666	<b>7.3</b>	6.3-8.3	2,678	<b>3.7</b>	3.0-4.4
<b>Age</b>									
25-34	475	<b>*0.9</b>	0.0-1.9	473	<b>*0.8</b>	0.0-1.7	474	<b>*0.5</b>	0.0-1.0
35-44	645	<b>2.8</b>	1.3-4.3	645	<b>2.5</b>	1.2-3.8	647	<b>*0.9</b>	0.3-1.6
45-54	877	<b>4.5</b>	3.0-5.9	875	<b>7.1</b>	5.3-8.9	878	<b>2.2</b>	1.2-3.1
55-64	961	<b>8.5</b>	6.6-10.5	960	<b>11.6</b>	9.3-13.8	964	<b>3.7</b>	2.5-5.0
65+	1,279	<b>15.7</b>	13.5-18.0	1,270	<b>19.0</b>	16.5-21.4	1,284	<b>9.9</b>	8.1-11.7
<b>Education</b>									
Less than H.S.	681	<b>12.8</b>	10.2-15.5	671	<b>12.9</b>	10.2-15.5	687	<b>5.9</b>	4.1-7.6
H.S. or G.E.D.	1,771	<b>5.9</b>	4.8-7.1	1,768	<b>7.9</b>	6.6-9.2	1,773	<b>3.5</b>	2.6-4.3
Some Post-H.S.	1,031	<b>4.6</b>	3.4-5.8	1,028	<b>6.4</b>	5.0-7.9	1,031	<b>2.5</b>	1.7-3.4
College Graduate	938	<b>2.8</b>	1.8-3.9	939	<b>4.9</b>	3.5-6.2	940	<b>1.8</b>	1.0-2.6
<b>Income</b>									
Less than \$15,000	622	<b>13.6</b>	10.6-16.6	621	<b>15.0</b>	12.0-18.0	626	<b>8.0</b>	5.8-10.2
\$15,000- 24,999	819	<b>9.7</b>	7.5-11.9	821	<b>10.4</b>	8.3-12.5	824	<b>5.0</b>	3.5-6.5
\$25,000- 34,999	548	<b>4.6</b>	2.9-6.3	541	<b>6.6</b>	4.6-8.6	548	<b>2.4</b>	1.2-3.7
\$35,000- 49,999	647	<b>5.0</b>	3.4-6.6	648	<b>7.1</b>	4.9-9.4	647	<b>2.4</b>	1.3-3.5
\$50,000- 74,999	620	<b>2.7</b>	1.4-4.0	618	<b>5.0</b>	3.3-6.8	620	<b>*1.5</b>	0.5-2.4
\$75,000+	617	<b>*1.7</b>	0.6-2.7	618	<b>3.3</b>	1.9-4.7	617	<b>*0.8</b>	0.2-1.3

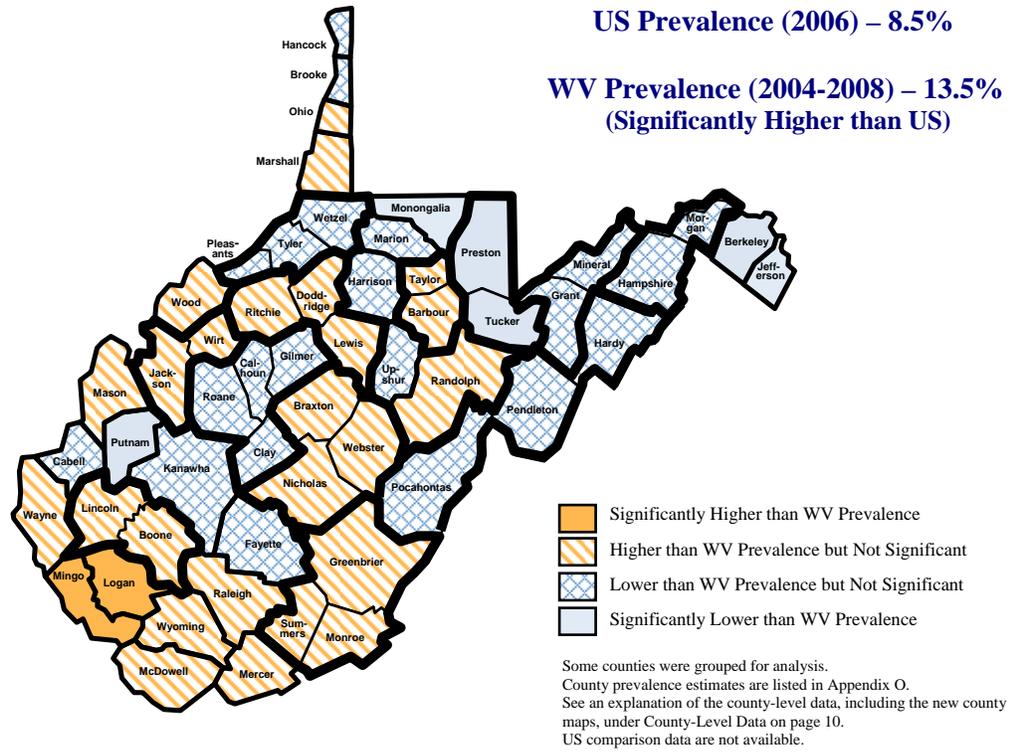
\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Table 15.2 Heart attack, angina, or stroke by demographic characteristics: WVBRFSS, 2008**

Characteristic	Heart Attack or Myocardial Infarction			Angina or Coronary Heart Disease			Stroke		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	4,146	<b>7.7</b>	6.8-8.5	4,125	<b>8.1</b>	7.3-9.0	4,154	<b>4.3</b>	3.7-4.9
Males	1,576	<b>9.5</b>	8.0-11.0	1,568	<b>7.9</b>	6.6-9.2	1,579	<b>3.6</b>	2.7-4.5
Females	2,570	<b>6.0</b>	5.0-6.9	2,557	<b>8.4</b>	7.3-9.4	2,575	<b>4.9</b>	4.1-5.8
<b>Age</b>									
25-34	405	<b>*0.8</b>	0.0-1.7	405	<b>*1.7</b>	0.4-3.0	405	<b>*0.9</b>	0.0-1.7
35-44	583	<b>*1.7</b>	0.6-2.8	581	<b>3.1</b>	1.4-4.8	582	<b>*1.1</b>	0.2-2.0
45-54	834	<b>5.4</b>	3.7-7.0	836	<b>6.7</b>	4.9-8.5	836	<b>3.4</b>	2.1-4.7
55-64	974	<b>12.2</b>	9.9-14.5	970	<b>11.6</b>	9.5-13.7	972	<b>5.4</b>	3.8-7.0
65+	1,191	<b>20.1</b>	17.5-22.8	1,174	<b>21.0</b>	18.4-23.6	1,200	<b>11.9</b>	9.8-13.9
<b>Education</b>									
Less than H.S.	612	<b>14.8</b>	11.9-17.8	602	<b>16.0</b>	12.9-19.1	612	<b>9.3</b>	7.0-11.6
H.S. or G.E.D.	1,656	<b>7.8</b>	6.4-9.3	1,652	<b>7.7</b>	6.4-9.0	1,664	<b>3.5</b>	2.6-4.3
Some Post-H.S.	963	<b>6.7</b>	5.1-8.3	960	<b>7.1</b>	5.5-8.7	963	<b>5.0</b>	3.6-6.4
College Graduate	906	<b>3.6</b>	2.4-4.8	902	<b>4.8</b>	3.4-6.2	906	<b>1.7</b>	0.8-2.6
<b>Income</b>									
Less than \$15,000	543	<b>17.9</b>	14.4-21.5	538	<b>17.7</b>	14.2-21.2	544	<b>9.1</b>	6.7-11.6
\$15,000- 24,999	750	<b>10.7</b>	8.3-13.0	749	<b>11.4</b>	9.1-13.7	750	<b>7.1</b>	5.2-9.1
\$25,000- 34,999	517	<b>6.5</b>	4.1-8.8	511	<b>8.2</b>	5.7-10.8	520	<b>5.1</b>	3.0-7.1
\$35,000- 49,999	591	<b>6.5</b>	4.6-8.5	591	<b>6.8</b>	4.7-8.9	592	<b>1.8</b>	0.8-2.8
\$50,000- 74,999	573	<b>2.8</b>	1.6-4.0	574	<b>4.5</b>	2.7-6.2	574	<b>1.9</b>	0.9-3.0
\$75,000+	600	<b>2.8</b>	1.2-4.3	599	<b>2.7</b>	1.6-3.8	601	<b>*1.3</b>	0.3-2.2

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Figure 15.1 Adults diagnosed with heart attack, angina, or stroke by county: WVBRFSS, 2004-2008**



## CHAPTER 16: DIABETES

### Diabetes Awareness in 2007 and 2008

<b>Definition</b>	Responding “Yes” to the following question: “Have you ever been told by a doctor that you have diabetes?” Women told they had diabetes only during pregnancy are treated as an answer of “No.” Those with pre-diabetes and borderline diabetes also are treated as an answer of “No.”
<b>Prevalence</b>	<b>WV: 10.8%</b> (95% CI: 9.9-11.8) in 2007; <b>11.9%</b> (95% CI: 10.9-13.0) in 2008. <b>US: 8.6%</b> (95% CI: 8.4-8.7) in 2007; <b>8.8%</b> (95% CI: 8.6-8.9) in 2008. West Virginia ranked 4 <sup>th</sup> highest among 54 BRFSS participants in 2007 and 2 <sup>nd</sup> highest among 54 BRFSS participants in 2008.
<b>Time Trends</b>	The prevalence of diabetes among adults has increased steeply and significantly since 1995.
<b>Gender</b>	<b>Men:</b> 11.2% (95% CI: 9.7-12.7) in 2007; 12.1% (95% CI: 10.5-13.8) in 2008. <b>Women:</b> 10.5% (95% CI: 9.4-11.7) in 2007; 11.8% (95% CI: 10.4-13.2) in 2008. There was no significant gender difference in diabetes prevalence in either 2007 or 2008.
<b>Age</b>	The oldest adults (65 and older) had the highest diabetes prevalence among all age groups in West Virginia in both 2007 and 2008. The prevalence of diabetes increased as age increased.
<b>Education</b>	Adults with less than a high school education carried the greatest risk of diabetes while college graduates had the lowest prevalence of diabetes for both 2007 and 2008. Each increase in education was associated with a lower risk of diabetes, although the differences were not significant between every group.
<b>Household Income</b>	There was a significant income difference in the prevalence of diabetes. The prevalence generally decreased with increasing income.

**Table 16.1 Diabetes awareness by demographic characteristics: WVBRFSS, 2007**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,758	<b>11.2</b>	9.7-12.7	2,680	<b>10.5</b>	9.4-11.7	4,438	<b>10.8</b>	9.9-11.8
<b>Age</b>									
18-24	71	<b>*1.3</b>	0.0-3.8	91	<b>*0.8</b>	0.0-2.4	162	<b>*1.1</b>	0.0-2.6
25-34	181	<b>*3.6</b>	0.7-6.4	294	<b>*3.6</b>	1.3-5.9	475	<b>3.6</b>	1.8-5.4
35-44	264	<b>6.6</b>	3.3-9.9	383	<b>3.8</b>	1.7-5.9	647	<b>5.2</b>	3.2-7.1
45-54	368	<b>11.8</b>	8.3-15.3	508	<b>9.8</b>	7.0-12.6	876	<b>10.8</b>	8.6-13.0
55-64	413	<b>19.2</b>	15.0-23.4	551	<b>18.0</b>	14.5-21.5	964	<b>18.6</b>	15.9-21.3
65+	451	<b>22.0</b>	17.8-26.1	837	<b>20.5</b>	17.6-23.4	1,288	<b>21.1</b>	18.7-23.5
<b>Education</b>									
Less than H.S.	279	<b>15.6</b>	10.9-20.3	408	<b>23.4</b>	18.9-28.0	687	<b>19.5</b>	16.2-22.8
H.S. or G.E.D.	719	<b>11.4</b>	9.0-13.7	1057	<b>11.4</b>	9.4-13.4	1,776	<b>11.4</b>	9.8-12.9
Some Post-H.S.	379	<b>8.9</b>	6.2-11.6	651	<b>7.2</b>	5.3-9.1	1,030	<b>8.0</b>	6.4-9.6
College Graduate	379	<b>10.1</b>	7.0-13.2	561	<b>4.7</b>	3.0-6.4	940	<b>7.2</b>	5.5-8.9
<b>Income</b>									
Less than \$15,000	194	<b>18.3</b>	12.4-24.1	419	<b>23.0</b>	18.5-27.4	623	<b>21.1</b>	17.5-24.7
\$15,000- 24,999	310	<b>13.1</b>	9.3-16.8	517	<b>11.4</b>	8.5-14.3	827	<b>12.2</b>	9.8-14.5
\$25,000- 34,999	235	<b>11.3</b>	7.1-15.5	314	<b>10.2</b>	6.9-13.6	549	<b>10.8</b>	8.1-13.5
\$35,000- 49,999	262	<b>10.9</b>	7.1-14.7	386	<b>8.5</b>	5.9-11.2	648	<b>9.6</b>	7.4-11.9
\$50,000- 74,999	279	<b>10.0</b>	6.4-13.7	341	<b>5.9</b>	3.3-8.5	620	<b>8.0</b>	5.7-10.2
\$75,000+	314	<b>6.7</b>	3.9-9.4	304	<b>2.9</b>	1.1-4.7	618	<b>5.1</b>	3.3-6.9

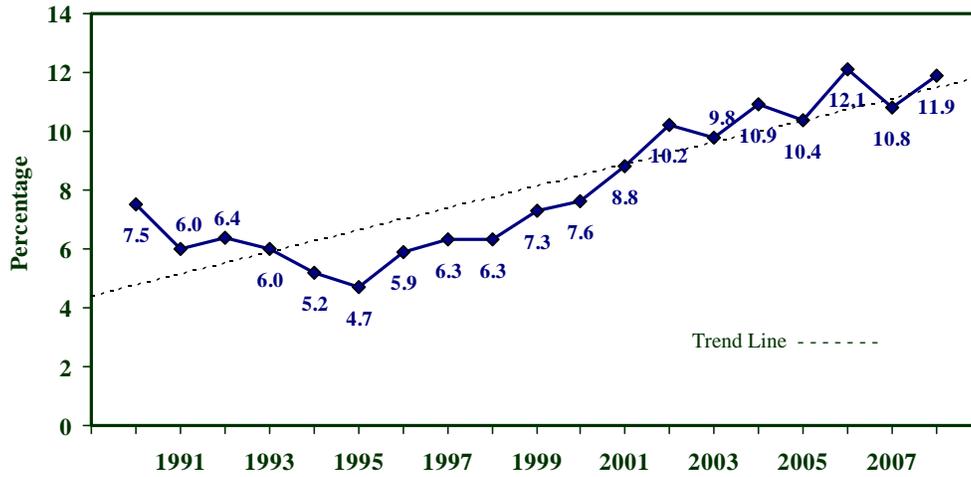
\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Table 16.2 Diabetes awareness by demographic characteristics: WVBRFSS, 2008**

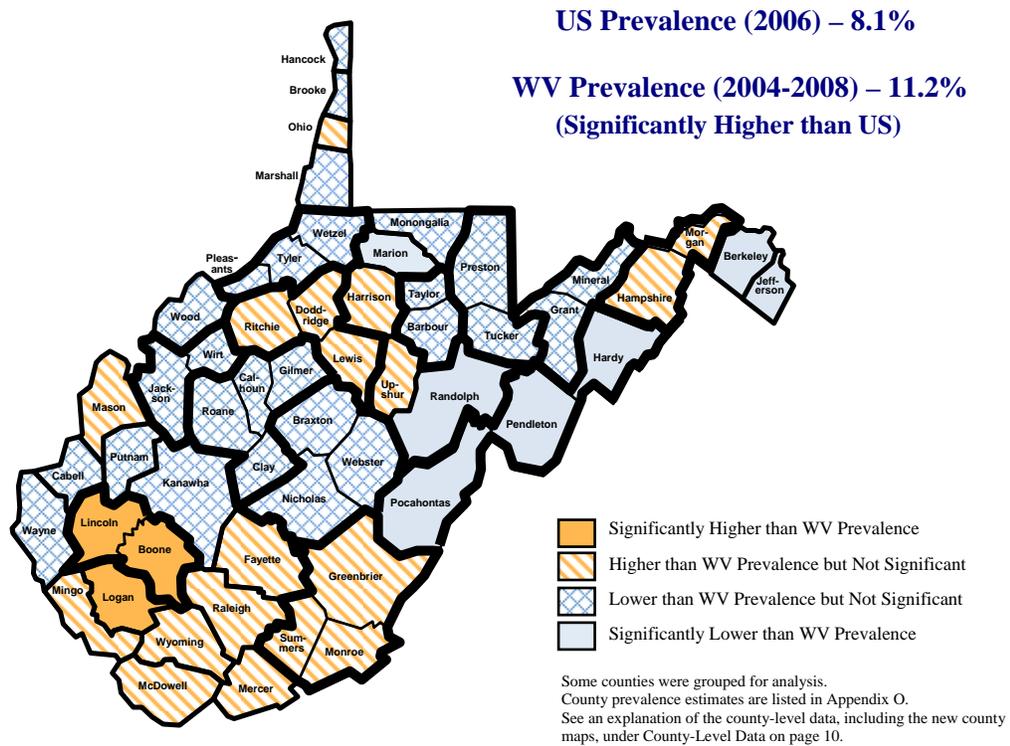
Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,580	<b>12.1</b>	10.5-13.8	2,583	<b>11.8</b>	10.4-13.2	4,163	<b>11.9</b>	10.9-13.0
<b>Age</b>									
18-24	61	<b>*2.6</b>	0.0-5.7	76	<b>*7.8</b>	1.2-14.3	137	<b>*5.1</b>	1.5-8.7
25-34	173	<b>*1.4</b>	0.0-3.0	232	<b>*3.9</b>	0.9-6.9	405	<b>*2.6</b>	0.9-4.3
35-44	234	<b>7.4</b>	3.7-11.0	348	<b>6.0</b>	3.0-9.1	582	<b>6.7</b>	4.3-9.0
45-54	336	<b>13.1</b>	9.3-17.0	502	<b>11.6</b>	8.7-14.4	838	<b>12.3</b>	9.9-14.7
55-64	378	<b>19.0</b>	14.7-23.2	599	<b>16.1</b>	13.0-19.3	977	<b>17.6</b>	14.9-20.2
65+	393	<b>26.4</b>	21.6-31.3	809	<b>20.2</b>	17.3-23.2	1,202	<b>22.8</b>	20.2-25.5
<b>Education</b>									
Less than H.S.	236	<b>14.4</b>	9.9-19.0	379	<b>20.3</b>	15.9-24.7	615	<b>17.4</b>	14.2-20.5
H.S. or G.E.D.	635	<b>12.6</b>	10.0-15.2	1,032	<b>13.4</b>	10.8-16.0	1,667	<b>13.0</b>	11.2-14.9
Some Post-H.S.	342	<b>10.3</b>	7.1-13.5	622	<b>9.7</b>	7.3-12.0	964	<b>10.0</b>	8.0-11.9
College Graduate	363	<b>11.0</b>	7.5-14.5	545	<b>5.6</b>	3.6-7.6	908	<b>8.3</b>	6.3-10.3
<b>Income</b>									
Less than \$15,000	154	<b>23.2</b>	15.3-31.1	395	<b>23.0</b>	17.2-28.7	549	<b>23.1</b>	18.4-27.7
\$15,000- 24,999	243	<b>13.0</b>	8.7-17.4	511	<b>15.3</b>	11.9-18.7	754	<b>14.3</b>	11.6-17.0
\$25,000- 34,999	202	<b>15.3</b>	10.2-20.4	319	<b>10.9</b>	6.8-15.0	521	<b>13.0</b>	9.8-16.2
\$35,000- 49,999	254	<b>11.4</b>	7.5-15.2	337	<b>6.3</b>	3.7-8.8	591	<b>8.8</b>	6.5-11.2
\$50,000- 74,999	244	<b>8.7</b>	5.3-12.2	331	<b>8.0</b>	4.9-11.1	575	<b>8.4</b>	6.1-10.7
\$75,000+	290	<b>7.5</b>	4.4-10.7	311	<b>4.0</b>	1.7-6.3	601	<b>6.1</b>	4.0-8.1

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Figure 16.1 Diabetes awareness by year: WVBRFSS, 1990-2008**



**Figure 16.2 Diabetes awareness by county: WVBRFSS, 2004-2008**



## CHAPTER 17: ASTHMA

### Lifetime and Current Asthma among Adults in 2007 and 2008

**Definitions**                    **Lifetime Asthma:** Responding “Yes” to the following question: “Have you ever been told by a doctor, nurse, or other health professional that you had asthma?”

**Current Asthma:** Responding “Yes” to the lifetime asthma question and “Yes” to the following question: “Do you still have asthma?”

#### Prevalence

##### *Lifetime Asthma*

**WV: 12.2%** (95% CI: 10.9-13.5) in 2007; **13.7%** (95% CI: 12.3-15.0) in 2008.

**US: 13.0%** (95% CI: 12.7-13.2) in 2007; **13.3%** (95% CI: 13.1-13.5) in 2008.

West Virginia ranked 38<sup>th</sup> among 54 BRFSS participants in 2007 and 25<sup>th</sup> among 54 BRFSS participants in 2008.

##### *Current Asthma*

**WV: 9.0%** (95% CI: 7.9-10.1) in 2007; **9.6%** (95% CI: 8.5-10.7) in 2008.

**US: 8.2%** (95% CI: 8.0-8.4) in 2007; **8.5%** (95% CI: 8.3-8.6) in 2008.

West Virginia ranked 14<sup>th</sup> among 54 BRFSS participants in 2007 and 9<sup>th</sup> among 54 BRFSS participants in 2008.

#### Time Trends

Overall, there has been a slight increase in the prevalence of lifetime asthma and current asthma over the past 9 years.

#### Gender

##### *Lifetime Asthma*

**Men:** 10.6% (95% CI: 8.7-12.4) in 2007; 11.1% (95% CI: 9.2-13.1) in 2008.

**Women:** 13.7% (95% CI: 12.1-15.4) in 2007; 16.1% (95% CI: 14.2-17.9) in 2008.

Women had a significantly higher prevalence of lifetime asthma than men in 2008.

##### *Current Asthma*

**Men:** 6.9% (95% CI: 5.4-8.4) in 2007; 6.4% (95% CI: 5.1-7.7) in 2008.

**Women:** 11.0% (95% CI: 9.4-12.5) in 2007; 12.7% (95% CI: 11.0-14.4) in 2008.

In both years, current asthma prevalence was significantly higher among women than men.

#### *Current Asthma*

##### **Age**

Generally the current asthma prevalence did not differ significantly by age in 2007 or 2008.

#### *Current Asthma* **Education and Household Income**

In 2007 and 2008, the prevalence of current asthma was significantly higher among adults without a high school diploma and among those with a household income of less than \$15,000. In fact, the prevalence among the poorest adults was about three to four times higher than the prevalence among the wealthiest adults.

### WV HEALTHY PEOPLE 2010 OBJECTIVES

#### **Objective 24.5**

Reduce the prevalence of current asthma among adults aged 18 years and older to 7.7% or lower. (Revised 2003) (Baseline: 8.5% in 2000; Current: 9.6% in 2008)

**Table 17.1 Lifetime asthma by demographic characteristics: WVBRFSS, 2007**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,759	<b>10.6</b>	8.7-12.4	2,674	<b>13.7</b>	12.1-15.4	4,433	<b>12.2</b>	10.9-13.5
<b>Age</b>									
18-24	72	<b>*14.0</b>	4.2-23.8	91	<b>19.3</b>	9.6-29.1	163	<b>16.6</b>	9.7-23.5
25-34	181	<b>10.2</b>	5.6-14.8	294	<b>13.2</b>	9.2-17.3	475	<b>11.7</b>	8.6-14.8
35-44	264	<b>7.8</b>	4.6-11.0	382	<b>13.4</b>	9.6-17.2	646	<b>10.6</b>	8.1-13.1
45-54	372	<b>11.9</b>	8.1-15.6	507	<b>13.1</b>	10.0-16.2	879	<b>12.5</b>	10.1-14.9
55-64	413	<b>9.7</b>	6.5-12.9	550	<b>14.3</b>	11.3-17.3	963	<b>12.0</b>	9.8-14.2
65+	447	<b>10.7</b>	7.6-13.9	834	<b>11.8</b>	9.5-14.2	1,281	<b>11.4</b>	9.5-13.2
<b>Education</b>									
Less than H.S.	277	<b>18.2</b>	12.3-24.1	405	<b>20.5</b>	16.1-24.9	682	<b>19.3</b>	15.6-23.0
H.S. or G.E.D.	720	<b>9.4</b>	6.4-12.5	1,054	<b>13.6</b>	10.9-16.3	1,774	<b>11.5</b>	9.5-13.5
Some Post-H.S.	380	<b>8.3</b>	5.4-11.1	652	<b>12.8</b>	9.2-16.4	1,032	<b>10.7</b>	8.3-13.1
College Graduate	380	<b>9.9</b>	6.1-13.8	560	<b>11.0</b>	7.6-14.3	940	<b>10.5</b>	8.0-13.0
<b>Income</b>									
Less than \$15,000	196	<b>19.1</b>	12.1-26.1	429	<b>20.2</b>	15.9-24.6	625	<b>19.8</b>	15.9-23.6
\$15,000- 24,999	309	<b>12.7</b>	8.2-17.2	514	<b>16.5</b>	12.6-20.4	823	<b>14.7</b>	11.8-17.7
\$25,000- 34,999	234	<b>12.9</b>	6.8-19.1	313	<b>15.6</b>	10.1-21.1	547	<b>14.2</b>	10.1-18.4
\$35,000- 49,999	262	<b>5.1</b>	2.4-7.7	386	<b>9.5</b>	6.3-12.7	648	<b>7.5</b>	5.3-9.6
\$50,000- 74,999	279	<b>8.1</b>	4.6-11.6	341	<b>13.2</b>	7.9-18.5	620	<b>10.6</b>	7.4-13.8
\$75,000+	314	<b>*8.3</b>	3.3-13.2	304	<b>9.0</b>	4.7-13.4	618	<b>8.6</b>	5.2-12.0

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Table 17.2 Lifetime asthma by demographic characteristics: WVBRFSS, 2008**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,579	<b>11.1</b>	9.2-13.1	2,581	<b>16.1</b>	14.2-17.9	4,160	<b>13.7</b>	12.3-15.0
<b>Age</b>									
18-24	60	<b>*16.6</b>	6.6-26.6	76	<b>*25.2</b>	14.9-35.5	136	<b>20.8</b>	13.6-28.0
25-34	173	<b>9.6</b>	5.1-14.1	232	<b>17.6</b>	12.2-23.1	405	<b>13.5</b>	10.0-17.1
35-44	234	<b>9.9</b>	5.8-13.9	348	<b>17.2</b>	12.8-21.7	582	<b>13.6</b>	10.5-16.6
45-54	336	<b>11.6</b>	7.7-15.6	501	<b>16.6</b>	13.2-20.1	837	<b>14.2</b>	11.6-16.8
55-64	378	<b>10.1</b>	6.8-13.5	599	<b>16.6</b>	13.2-19.9	977	<b>13.4</b>	11.0-15.7
65+	393	<b>10.7</b>	7.3-14.0	808	<b>9.2</b>	7.2-11.3	1,201	<b>9.8</b>	8.0-11.7
<b>Education</b>									
Less than H.S.	236	<b>15.1</b>	9.6-20.6	378	<b>21.7</b>	15.7-27.8	614	<b>18.4</b>	14.3-22.6
H.S. or G.E.D.	634	<b>13.1</b>	9.5-16.7	1,033	<b>13.4</b>	10.8-16.1	1,667	<b>13.3</b>	11.1-15.5
Some Post-H.S.	343	<b>9.2</b>	5.7-12.6	621	<b>17.8</b>	13.9-21.8	964	<b>13.9</b>	11.2-16.6
College Graduate	362	<b>6.5</b>	3.7-9.4	544	<b>15.1</b>	11.5-18.7	906	<b>10.8</b>	8.5-13.2
<b>Income</b>									
Less than \$15,000	154	<b>20.6</b>	13.2-28.0	394	<b>23.5</b>	17.9-29.1	548	<b>22.5</b>	18.0-26.9
\$15,000- 24,999	243	<b>11.6</b>	6.7-16.4	511	<b>18.1</b>	13.6-22.7	754	<b>15.3</b>	11.9-18.7
\$25,000- 34,999	202	<b>*11.3</b>	4.6-18.0	319	<b>12.5</b>	7.4-17.6	521	<b>11.9</b>	7.8-16.1
\$35,000- 49,999	255	<b>9.5</b>	5.4-13.6	337	<b>12.4</b>	8.4-16.5	592	<b>10.9</b>	8.1-13.8
\$50,000- 74,999	243	<b>11.2</b>	6.7-15.8	331	<b>16.1</b>	11.4-20.9	574	<b>13.6</b>	10.3-16.9
\$75,000+	290	<b>9.3</b>	5.2-13.5	309	<b>11.4</b>	7.5-15.2	599	<b>10.2</b>	7.3-13.1

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Table 17.3 Current asthma by demographic characteristics: WVBRFSS, 2007**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,756	<b>6.9</b>	5.4-8.4	2,670	<b>11.0</b>	9.4-12.5	4,426	<b>9.0</b>	7.9-10.1
<b>Age</b>									
18-24	72	<b>*8.5</b>	1.0-16.0	91	<b>*15.9</b>	6.4-25.3	163	<b>12.1</b>	6.0-18.1
25-34	181	<b>*6.1</b>	2.4-9.8	294	<b>10.4</b>	6.7-14.0	475	<b>8.2</b>	5.6-10.8
35-44	264	<b>4.7</b>	2.1-7.3	381	<b>10.4</b>	7.0-13.8	645	<b>7.6</b>	5.4-9.7
45-54	369	<b>6.8</b>	4.0-9.6	507	<b>10.1</b>	7.4-12.9	876	<b>8.5</b>	6.6-10.5
55-64	413	<b>7.0</b>	4.3-9.7	550	<b>11.6</b>	8.8-14.3	963	<b>9.3</b>	7.4-11.2
65+	447	<b>8.8</b>	5.9-11.7	831	<b>9.7</b>	7.5-11.8	1,278	<b>9.3</b>	7.6-11.0
<b>Education</b>									
Less than H.S.	276	<b>13.9</b>	8.9-18.9	404	<b>18.4</b>	14.2-22.6	680	<b>16.1</b>	12.8-19.4
H.S. or G.E.D.	720	<b>5.6</b>	3.4-7.9	1,053	<b>10.7</b>	8.2-13.2	1,773	<b>8.2</b>	6.5-9.8
Some Post-H.S.	379	<b>4.9</b>	2.7-7.2	650	<b>10.4</b>	6.9-13.8	1,029	<b>7.9</b>	5.7-10.1
College Graduate	379	<b>6.8</b>	3.2-10.3	560	<b>7.5</b>	4.5-10.5	939	<b>7.1</b>	4.8-9.4
<b>Income</b>									
Less than \$15,000	195	<b>13.0</b>	7.9-18.2	429	<b>17.0</b>	13.0-21.1	624	<b>15.4</b>	12.2-18.6
\$15,000- 24,999	309	<b>9.0</b>	5.1-12.9	514	<b>14.5</b>	10.8-18.2	823	<b>11.9</b>	9.2-14.6
\$25,000- 34,999	234	<b>10.1</b>	4.4-15.9	311	<b>11.2</b>	6.2-16.3	545	<b>10.7</b>	6.8-14.5
\$35,000- 49,999	262	<b>*2.6</b>	0.8-4.4	385	<b>5.7</b>	3.4-7.9	647	<b>4.2</b>	2.8-5.7
\$50,000- 74,999	279	<b>4.7</b>	2.0-7.5	341	<b>10.9</b>	5.8-16.0	620	<b>7.8</b>	4.9-10.7
\$75,000+	313	<b>3.7</b>	0.7-6.8	304	<b>*6.7</b>	2.5-10.8	617	<b>4.9</b>	2.4-7.4

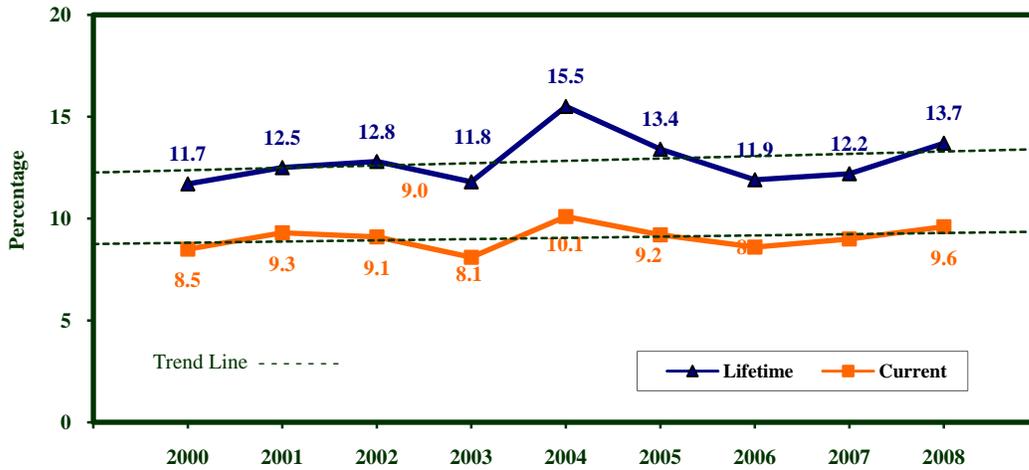
\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Table 17.4 Current asthma by demographic characteristics: WVBRFSS, 2008**

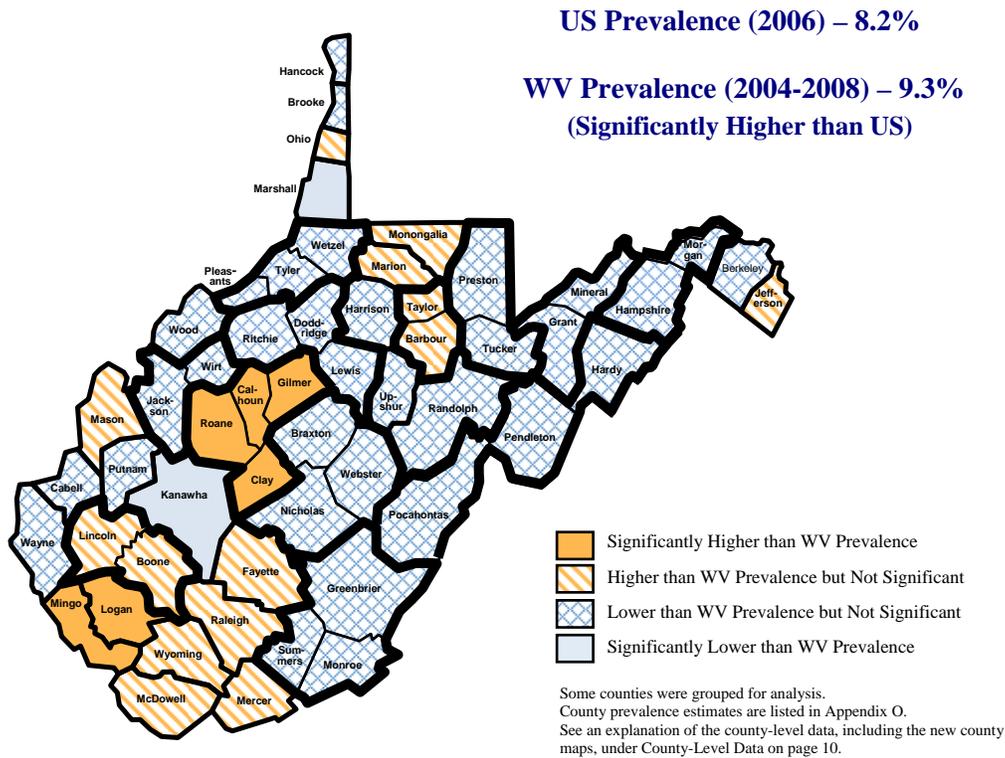
Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,577	<b>6.4</b>	5.1-7.7	2,574	<b>12.7</b>	11.0-14.4	4,151	<b>9.6</b>	8.5-10.7
<b>Age</b>									
18-24	60	<b>*2.1</b>	0.0-5.0	76	<b>17.7</b>	8.3-27.0	136	<b>9.7</b>	4.7-14.8
25-34	172	<b>*3.5</b>	0.6-6.4	230	<b>15.1</b>	9.8-20.3	402	<b>9.2</b>	6.1-12.2
35-44	234	<b>6.3</b>	3.0-9.7	348	<b>14.0</b>	10.0-18.1	582	<b>10.2</b>	7.6-12.9
45-54	335	<b>8.4</b>	4.9-11.8	501	<b>13.2</b>	10.1-16.3	836	<b>10.8</b>	8.5-13.2
55-64	378	<b>8.2</b>	5.1-11.3	597	<b>12.0</b>	12.0-14.8	975	<b>10.1</b>	8.0-12.2
65+	393	<b>8.3</b>	5.3-11.2	805	<b>7.9</b>	7.9-9.9	1,198	<b>8.1</b>	6.4-9.7
<b>Education</b>									
Less than H.S.	235	<b>11.2</b>	6.8-15.7	378	<b>19.6</b>	19.6-25.3	613	<b>15.5</b>	11.7-19.2
H.S. or G.E.D.	634	<b>5.7</b>	3.9-7.6	1,030	<b>10.1</b>	10.1-12.4	1,664	<b>8.0</b>	6.5-9.5
Some Post-H.S.	343	<b>6.3</b>	3.3-9.4	619	<b>14.1</b>	14.1-17.8	962	<b>10.6</b>	8.1-13.0
College Graduate	361	<b>4.4</b>	2.1-6.8	542	<b>11.2</b>	11.2-14.5	903	<b>7.8</b>	5.8-9.9
<b>Income</b>									
Less than \$15,000	154	<b>18.6</b>	11.4-25.9	392	<b>21.9</b>	21.9-27.5	546	<b>20.7</b>	16.3-25.1
\$15,000- 24,999	243	<b>6.9</b>	3.7-10.1	507	<b>15.0</b>	15.0-19.4	750	<b>11.5</b>	8.5-14.4
\$25,000- 34,999	202	<b>*5.7</b>	1.7-9.7	319	<b>7.7</b>	7.7-11.5	521	<b>6.8</b>	4.0-9.5
\$35,000- 49,999	253	<b>5.3</b>	2.4-8.2	337	<b>10.1</b>	10.1-13.9	590	<b>7.7</b>	5.3-10.1
\$50,000- 74,999	243	<b>7.7</b>	3.7-11.7	331	<b>12.3</b>	12.3-16.6	574	<b>9.9</b>	7.0-12.8
\$75,000+	290	<b>*3.5</b>	1.4-5.5	309	<b>7.0</b>	7.0-10.0	599	<b>5.0</b>	3.2-6.7

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Figure 17.1 Lifetime and current asthma by year: WVBRFSS, 2000-2008**



**Figure 17.2 Current asthma by county: WVBRFSS, 2004-2008**

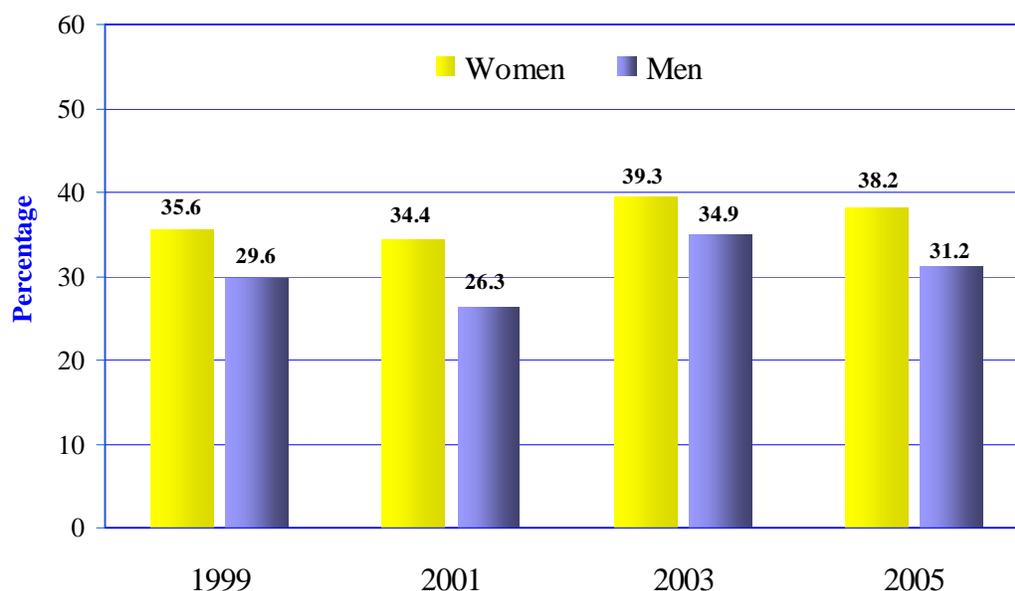


## CHAPTER 18: ARTHRITIS

### Diagnosed with Some Form of Arthritis in 2007

<b>Definition</b>	Responding “Yes” to the following question: “Have you EVER been told by a doctor or other health professional that you have some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia?”
<b>Prevalence</b>	<b>WV: 35.5%</b> (95% CI: 33.9-37.2) in 2007. <b>US: 27.0%</b> (95% CI: 26.8-27.3) in 2007. West Virginia ranked 1 <sup>st</sup> highest among 54 BRFSS participants in 2007.
<b>Gender</b>	<b>Men:</b> 32.4% (95% CI: 29.8-34.9) in 2007. <b>Women:</b> 38.5% (95% CI: 36.4-40.7) in 2007. The prevalence of arthritis was significantly higher among women than men.
<b>Age</b>	The prevalence of arthritis significantly increased among adults at each higher age grouping. Less than 15% of adults aged 18-24 had ever been diagnosed with some form of arthritis, compared with nearly 60% of those aged 65 and older.
<b>Education</b>	The prevalence of arthritis decreased as educational attainment increased. Adults without a high school diploma/GED had a significantly higher prevalence of arthritis than those at all higher levels of education.
<b>Household Income</b>	The prevalence of arthritis also decreased as household income increased. The prevalence of arthritis among adults in the poorest households was nearly two times higher than among those in the wealthiest households.

Figure 18.1 Arthritis by gender and year: WVBRFSS, 1999, 2001, 2003, 2005

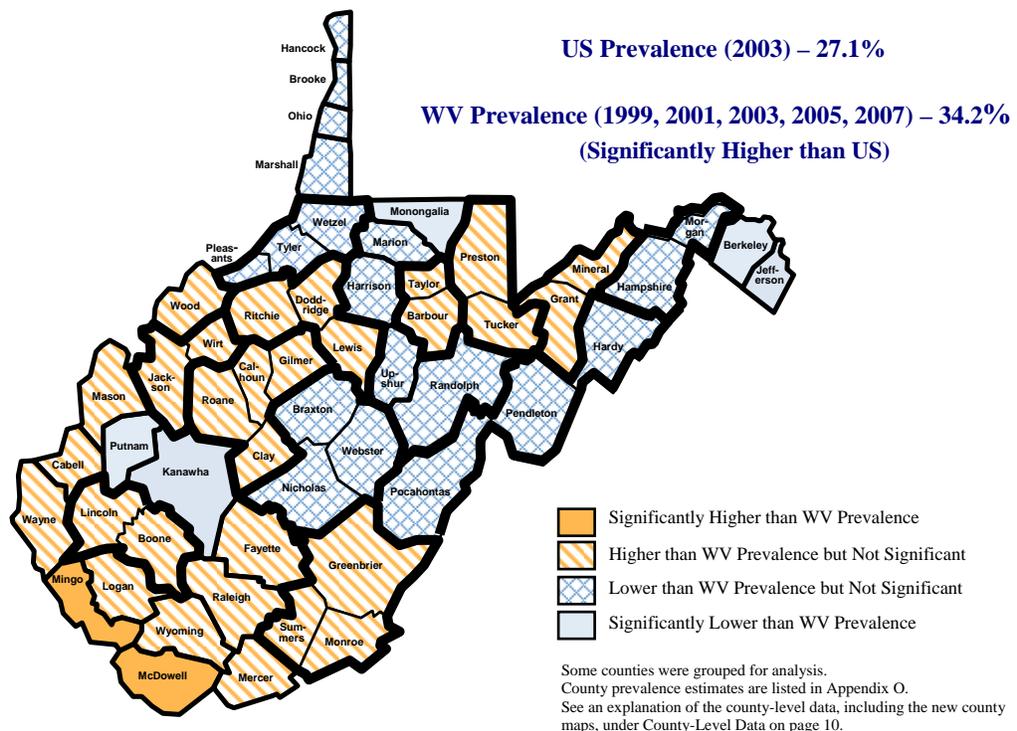


**Table 18.1 Arthritis by demographic characteristics: WVBRESS, 2007**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,741	<b>32.4</b>	29.8-34.9	2,661	<b>38.5</b>	36.4-40.7	4,402	<b>35.5</b>	33.9-37.2
<b>Age</b>									
18-24	71	<b>*14.4</b>	5.0-23.8	91	<b>*10.4</b>	2.6-18.1	162	<b>12.4</b>	6.3-18.6
25-34	179	<b>14.8</b>	8.7-20.8	293	<b>16.1</b>	11.3-20.9	472	<b>15.4</b>	11.6-19.3
35-44	260	<b>26.5</b>	20.8-32.3	380	<b>23.0</b>	18.3-27.7	640	<b>24.7</b>	21.0-28.4
45-54	371	<b>34.0</b>	28.8-39.2	506	<b>41.1</b>	36.4-45.8	877	<b>37.7</b>	34.2-41.2
55-64	409	<b>46.9</b>	41.7-52.1	546	<b>56.4</b>	51.9-61.0	955	<b>51.7</b>	48.2-55.1
65+	442	<b>51.1</b>	46.1-56.1	830	<b>64.3</b>	60.7-67.9	1,272	<b>58.7</b>	55.8-61.7
<b>Education</b>									
Less than H.S.	274	<b>49.0</b>	41.6-56.5	404	<b>55.3</b>	49.4-61.2	678	<b>52.1</b>	47.4-56.9
H.S. or G.E.D.	713	<b>30.7</b>	26.9-34.6	1,050	<b>41.0</b>	37.6-44.5	1,763	<b>35.9</b>	33.3-38.5
Some Post-H.S.	375	<b>29.9</b>	24.6-35.1	646	<b>33.0</b>	28.6-37.4	1,021	<b>31.6</b>	28.2-35.0
College Graduate	378	<b>26.3</b>	21.6-31.1	558	<b>29.6</b>	25.5-33.7	936	<b>28.1</b>	25.0-31.2
<b>Income</b>									
Less than \$15,000	195	<b>50.7</b>	42.3-59.1	427	<b>55.0</b>	49.2-60.9	622	<b>53.3</b>	48.4-58.1
\$15,000- 24,999	309	<b>39.2</b>	32.9-45.5	511	<b>43.2</b>	38.2-48.2	820	<b>41.3</b>	37.3-45.3
\$25,000- 34,999	231	<b>32.9</b>	25.6-40.1	311	<b>37.1</b>	30.9-43.3	542	<b>34.9</b>	30.1-39.7
\$35,000- 49,999	258	<b>26.5</b>	20.9-32.2	386	<b>36.4</b>	31.1-41.7	644	<b>31.8</b>	27.9-35.8
\$50,000- 74,999	276	<b>25.8</b>	20.4-31.1	339	<b>27.0</b>	21.2-32.8	615	<b>26.4</b>	22.4-30.3
\$75,000+	313	<b>24.5</b>	18.9-30.1	303	<b>30.2</b>	30.2-35.8	616	<b>26.9</b>	22.8-30.9

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Figure 18.2 Arthritis by county: WVBRESS, 1999, 2001, 2003, 2005, 2007**

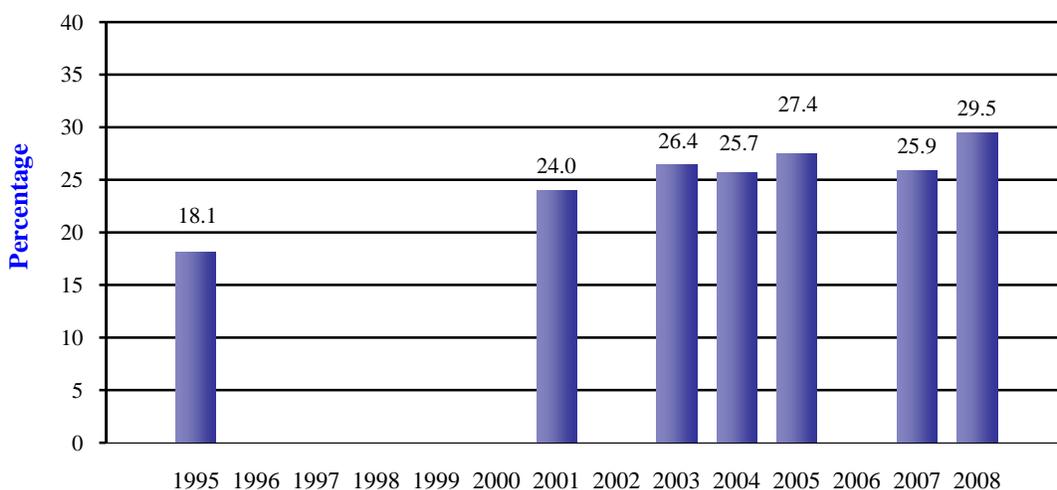


## CHAPTER 19: DISABILITY

### Disability in 2007 and 2008

<b>Definition</b>	Responding “Yes” to the following question: “Are you limited in any way in any activities because of physical, mental, or emotional problems?”
<b>Prevalence</b>	<b>WV: 25.9%</b> (95% CI: 24.4-27.4) in 2007; <b>29.5%</b> (95% CI: 27.9-31.1) in 2008. <b>US: 18.7%</b> (95% CI: 18.5-18.9) in 2007; <b>20.3%</b> (95% CI: 20.1-20.5) in 2008. West Virginia ranked 1 <sup>st</sup> highest among 54 BRFSS participants in 2007 and 1 <sup>st</sup> highest among 54 BRFSS participants in 2008.
<b>Time Trends</b>	The prevalence of disability in West Virginia increased significantly from 1995 (18.1%) to 2008 (29.5%). It has remained relatively stable since then, though there was a significant increase between 2007 and 2008.
<b>Gender</b>	<b>Men:</b> 26.1% (95% CI: 23.7-28.5) in 2007; 28.7% (95% CI: 26.2-31.2) in 2008. <b>Women:</b> 25.8% (95% CI: 23.9-27.6) in 2007; 30.3% (95% CI: 28.2-32.3) in 2008. There was no significant gender difference for the prevalence of disability in either 2007 or 2008.
<b>Age</b>	Disability prevalence generally increased with age.
<b>Education</b>	The prevalence of disability was highest among those without a high school diploma. In fact, the prevalence was two times higher than that among college graduates.
<b>Household Income</b>	Disability was also most prevalent among those with the lowest incomes. In 2008, more than half of all adults in the poorest households were limited, compared with approximately 13% of those in the wealthiest homes.

**Figure 19.1 Disability by year: WVBRFSS, 1995, 2001, 2003-2005, 2007-2008**



NOTE: Data are not available for the years 1996, 1997, 1998, 1999, 2000, 2002, and 2006.

**Table 19.1 Disability by demographic characteristics: WVBRFSS, 2007**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,755	<b>26.1</b>	23.7-28.5	2,673	<b>25.8</b>	23.9-27.6	4,428	<b>25.9</b>	24.4-27.4
<b>Age</b>									
18-24	72	<b>18.9</b>	9.3-28.4	91	<b>9.7</b>	4.3-15.2	163	<b>14.4</b>	8.8-20.1
25-34	180	<b>14.2</b>	8.1-20.4	294	<b>13.7</b>	9.6-17.7	474	<b>14.0</b>	10.2-17.7
35-44	263	<b>22.3</b>	16.8-27.7	382	<b>19.4</b>	15.2-23.6	645	<b>20.8</b>	17.3-24.3
45-54	371	<b>28.1</b>	23.2-33.0	507	<b>28.0</b>	23.8-32.2	878	<b>28.1</b>	24.9-31.2
55-64	411	<b>37.4</b>	32.4-42.5	550	<b>35.1</b>	30.8-39.4	961	<b>36.3</b>	32.9-39.6
65+	448	<b>32.7</b>	28.1-37.4	833	<b>38.3</b>	34.7-41.9	1,281	<b>35.9</b>	33.1-38.8
<b>Education</b>									
Less than H.S.	276	<b>52.6</b>	45.2-60.0	407	<b>40.0</b>	34.4-45.5	683	<b>46.4</b>	41.7-51.1
H.S. or G.E.D.	718	<b>23.2</b>	19.7-26.7	1,053	<b>26.5</b>	23.6-29.5	1,771	<b>24.9</b>	22.6-27.2
Some Post-H.S.	380	<b>22.4</b>	17.5-27.3	650	<b>23.0</b>	19.4-26.6	1,030	<b>22.7</b>	19.8-25.7
College Graduate	379	<b>16.7</b>	12.4-21.0	560	<b>18.5</b>	15.2-21.8	939	<b>17.7</b>	15.0-20.3
<b>Income</b>									
Less than \$15,000	196	<b>60.6</b>	52.6-68.7	429	<b>48.3</b>	42.6-54.0	625	<b>53.3</b>	48.5-58.1
\$15,000- 24,999	308	<b>36.8</b>	30.5-43.1	516	<b>33.5</b>	28.8-38.3	824	<b>35.1</b>	31.2-39.0
\$25,000- 34,999	235	<b>23.1</b>	16.9-29.4	313	<b>20.6</b>	15.8-25.3	548	<b>21.9</b>	17.9-25.8
\$35,000- 49,999	262	<b>18.3</b>	13.4-23.2	386	<b>23.2</b>	18.6-27.8	648	<b>20.9</b>	17.6-24.3
\$50,000- 74,999	277	<b>18.4</b>	13.3-23.6	340	<b>12.4</b>	8.9-15.9	617	<b>15.4</b>	12.3-18.6
\$75,000+	314	<b>13.5</b>	8.3-18.6	304	<b>14.8</b>	10.8-18.9	618	<b>14.0</b>	10.6-17.5

**Table 19.2 Disability by demographic characteristics: WVBRFSS, 2008**

Characteristic	Men			Women			Total		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	1,577	<b>28.7</b>	26.2-31.2	2,580	<b>30.3</b>	28.2-32.3	4,157	<b>29.5</b>	27.9-31.1
<b>Age</b>									
18-24	61	<b>*13.0</b>	4.0-22.0	75	<b>14.6</b>	6.1-23.1	136	<b>13.8</b>	7.6-20.0
25-34	172	<b>15.7</b>	10.3-21.2	232	<b>18.6</b>	13.1-24.1	404	<b>17.1</b>	13.3-21.0
35-44	235	<b>21.1</b>	15.5-26.6	348	<b>21.6</b>	17.0-26.3	583	<b>21.4</b>	17.8-25.0
45-54	334	<b>38.6</b>	32.9-44.2	500	<b>35.8</b>	31.2-40.3	834	<b>37.1</b>	33.5-40.8
55-64	378	<b>40.6</b>	35.2-45.9	599	<b>42.0</b>	37.8-46.3	977	<b>41.3</b>	37.9-44.7
65+	392	<b>37.6</b>	32.5-42.8	810	<b>39.0</b>	35.3-42.6	1,202	<b>38.4</b>	35.4-41.4
<b>Education</b>									
Less than H.S.	238	<b>39.3</b>	32.0-46.5	378	<b>42.0</b>	35.8-48.2	616	<b>40.6</b>	35.8-45.4
H.S. or G.E.D.	634	<b>28.8</b>	24.6-33.0	1,034	<b>30.4</b>	27.1-33.6	1,668	<b>29.6</b>	27.0-32.2
Some Post-H.S.	341	<b>28.4</b>	23.2-33.6	619	<b>31.4</b>	27.0-35.8	960	<b>30.0</b>	26.6-33.4
College Graduate	360	<b>21.3</b>	16.8-25.8	545	<b>21.1</b>	17.4-24.8	905	<b>21.2</b>	18.3-24.1
<b>Income</b>									
Less than \$15,000	155	<b>64.1</b>	55.2-72.9	395	<b>51.4</b>	45.0-57.9	550	<b>56.0</b>	50.7-61.3
\$15,000- 24,999	243	<b>34.7</b>	27.9-41.5	510	<b>39.3</b>	34.1-44.6	753	<b>37.3</b>	33.1-41.5
\$25,000- 34,999	200	<b>33.5</b>	25.6-41.4	318	<b>27.5</b>	21.7-33.4	518	<b>30.4</b>	25.5-35.3
\$35,000- 49,999	254	<b>27.8</b>	22.0-33.5	337	<b>28.2</b>	22.7-33.7	591	<b>28.0</b>	24.0-32.0
\$50,000- 74,999	244	<b>21.4</b>	15.2-27.5	331	<b>19.2</b>	14.5-23.8	575	<b>20.3</b>	16.4-24.2
\$75,000+	289	<b>13.2</b>	9.1-17.3	311	<b>13.6</b>	9.6-17.5	600	<b>13.4</b>	10.5-16.3

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

## CHAPTER 20: EMOTIONAL SUPPORT AND LIFE SATISFACTION

### Emotional and Social Support in 2007 and 2008

**Definition** Responding “Always” or “Usually” to the following question: “How often do you get the social and emotional support you need?” (The response options offered were “Always,” “Usually,” “Sometimes,” “Rarely,” and “Never.”)

**Prevalence** **WV: 80.3%** (95% CI: 78.9-81.8) in 2007; **81.8%** (95% CI: 80.3-83.3) in 2008. **US: 78.7%** (95% CI: 78.4-79.0) in 2007; **80.1%** (95% CI: 79.8-80.3) in 2008. West Virginia ranked 29<sup>th</sup> highest among 54 BRFSS participants in 2007 and 23<sup>rd</sup> highest among 54 BRFSS participants in 2008.

**Gender** **Men:** 81.3% (95% CI: 79.0-83.6) in 2007; 81.2% (95% CI: 78.8-83.5) in 2008. **Women:** 79.5% (95% CI: 77.6-81.3) in 2007; 82.4% (95% CI: 80.6-84.2) in 2008. There was no significant gender difference in emotional and social support.

**Age, Education, Household Income** The prevalence of emotional and social support did not vary by age. The prevalence of emotional and social support was highest among adults with higher levels of education and income.

**Table 20.1 Emotional support by demographic characteristics: WVBRFSS, 2007 and 2008**

Characteristic	2007			2008		
	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	4,335	<b>80.3</b>	78.9-81.8	4,121	<b>81.8</b>	80.3-83.3
<b>Sex</b>						
Males	1,703	<b>81.3</b>	79.0-83.6	1,556	<b>81.2</b>	78.8-83.5
Females	2,632	<b>79.5</b>	77.6-81.3	2,565	<b>82.4</b>	80.6-84.2
<b>Age</b>						
18-24	157	<b>81.2</b>	74.4-88.0	136	<b>80.8</b>	73.6-88.0
25-34	462	<b>81.5</b>	77.4-85.6	403	<b>82.1</b>	78.0-86.2
35-44	631	<b>81.3</b>	78.0-84.6	581	<b>81.4</b>	77.9-84.9
45-54	867	<b>79.0</b>	76.1-82.0	831	<b>79.6</b>	76.6-82.7
55-64	945	<b>80.5</b>	77.8-83.2	967	<b>80.9</b>	78.3-83.6
65+	1,250	<b>79.7</b>	77.3-82.2	1,185	<b>85.3</b>	83.2-87.5
<b>Education</b>						
Less than H.S.	655	<b>69.4</b>	65.0-73.8	609	<b>72.6</b>	68.2-77.0
H.S. or G.E.D.	1,743	<b>77.3</b>	74.8-79.8	1,651	<b>79.6</b>	77.1-82.2
Some Post-H.S.	1,007	<b>84.9</b>	82.3-87.5	954	<b>84.6</b>	81.9-87.3
College Graduate	926	<b>88.4</b>	86.1-90.6	900	<b>89.0</b>	86.5-91.4
<b>Income</b>						
Less than \$15,000	611	<b>62.4</b>	57.7-67.1	540	<b>68.7</b>	64.1-73.4
\$15,000- 24,999	803	<b>75.8</b>	72.2-79.4	749	<b>77.7</b>	74.0-81.5
\$25,000- 34,999	533	<b>80.7</b>	76.5-84.9	520	<b>77.8</b>	73.4-82.1
\$35,000-49,999	640	<b>82.3</b>	78.9-85.7	587	<b>83.6</b>	80.3-87.0
\$50,000-74,000	612	<b>86.7</b>	83.4-90.0	572	<b>88.9</b>	85.5-92.3
\$75,000+	610	<b>87.8</b>	83.9-91.6	595	<b>90.6</b>	87.7-93.4

## General Life Satisfaction in 2007 and 2008

**Definition** Responding “Very satisfied” or “Satisfied” to the following question: “In general, how satisfied are you with your life?” (The response options offered were “Very satisfied,” “Satisfied,” “Dissatisfied,” or “Very dissatisfied.”)

**Prevalence** **WV:** **92.2%** (95% CI: 91.3-93.2) in 2007; **92.2%** (95% CI: 91.1-93.2) in 2008. **US:** **94.5%** (95% CI: 94.3-94.6) in 2007; **94.8%** (95% CI: 94.6-94.9) in 2008. West Virginia ranked lowest among 54 BRFSS participants in 2007 and 2008.

**Gender** **Men:** 92.0% (95% CI: 90.5-93.6) in 2007; **91.9%** (95% CI: 90.2-93.6) in 2008. **Women:** 92.4% (95% CI: 91.2-93.5) in 2007; **92.4%** (95% CI: 91.2-93.6) in 2008. There was no significant gender difference in the prevalence of life satisfaction in either 2007 or 2008.

**Age, Education, Household Income** Reports of general life satisfaction did not vary significantly among most age groups. Adults with four or more years of college education had a significantly higher prevalence of life satisfaction than those with a high school education or less in both 2007 and 2008. The prevalence of being satisfied with life was significantly higher among those earning \$75,000 or more as compared to those earning less than \$25,000.

**Table 20.2 Very satisfied or satisfied with life by demographic characteristics: WVBRFSS, 2007 and 2008**

Characteristic	2007			2008		
	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	4,370	<b>92.2</b>	91.3-93.2	4,127	<b>92.2</b>	91.1-93.2
<b>Sex</b>						
Males	1,731	<b>92.0</b>	90.5-93.6	1,560	<b>91.9</b>	90.2-93.6
Females	2,639	<b>92.4</b>	91.2-93.5	2,567	<b>92.4</b>	91.2-93.6
<b>Age</b>						
18-24	156	<b>94.6</b>	91.4-97.9	136	<b>92.2</b>	87.2-97.2
25-34	466	<b>92.7</b>	89.5-95.8	401	<b>92.6</b>	89.9-95.4
35-44	634	<b>90.1</b>	87.6-92.6	581	<b>91.3</b>	88.8-93.8
45-54	869	<b>92.5</b>	90.6-94.3	824	<b>90.5</b>	88.3-92.7
55-64	952	<b>91.3</b>	89.4-93.1	966	<b>91.4</b>	89.5-93.3
65+	1,271	<b>93.3</b>	91.8-94.7	1,198	<b>94.7</b>	93.4-96.0
<b>Education</b>						
Less than H.S.	665	<b>87.0</b>	83.9-90.0	605	<b>87.0</b>	83.6-90.3
H.S. or G.E.D.	1,754	<b>92.1</b>	90.6-93.6	1,652	<b>91.9</b>	90.1-93.6
Some Post-H.S.	1,013	<b>92.3</b>	90.3-94.4	959	<b>92.7</b>	90.8-94.5
College Graduate	934	<b>95.9</b>	94.6-97.2	902	<b>95.5</b>	94.0-97.0
<b>Income</b>						
Less than \$15,000	616	<b>78.3</b>	74.5-82.1	539	<b>78.5</b>	74.3-82.6
\$15,000- 24,999	815	<b>90.3</b>	87.8-92.7	743	<b>90.1</b>	87.4-92.8
\$25,000- 34,999	539	<b>92.5</b>	89.7-95.4	520	<b>95.1</b>	93.2-97.0
\$35,000-49,999	640	<b>94.8</b>	92.9-96.6	590	<b>93.6</b>	91.4-95.8
\$50,000-74,000	614	<b>96.6</b>	95.1-98.1	574	<b>96.7</b>	95.2-98.3
\$75,000+	612	<b>96.5</b>	94.1-98.9	597	<b>98.1</b>	96.9-99.3

## CHAPTER 21: HIV TESTING

### HIV Testing Prevalence in 2007 and 2008

**Definition** Responding “Yes” to the following question: “Have you EVER been tested for HIV? Do not count tests you may have had as part of a blood donation. Include tests using fluid from your mouth.”

**Prevalence** **WV: 35.0%** (95% CI: 33.0-37.1) in 2007; **31.8%** (95% CI: 29.7-33.9) in 2008. **US: 40.5%** (95% CI: 40.2-40.9) in 2007; **40.0%** (95% CI: 39.6-40.3) in 2008. West Virginia ranked 36<sup>th</sup> highest among 54 BRFSS participants in 2007 and 47<sup>th</sup> highest among 54 BRFSS participants in 2008.

**Age** In both 2007 and 2008, HIV testing prevalence was highest among those aged 25-34, followed by the 35-44 age group.

**Education, Household Income** No consistent findings were found for HIV testing by education or income.

**Table 21.1 HIV testing among adults aged 18-64 by demographic characteristics: WVBRFSS, 2007 and 2008**

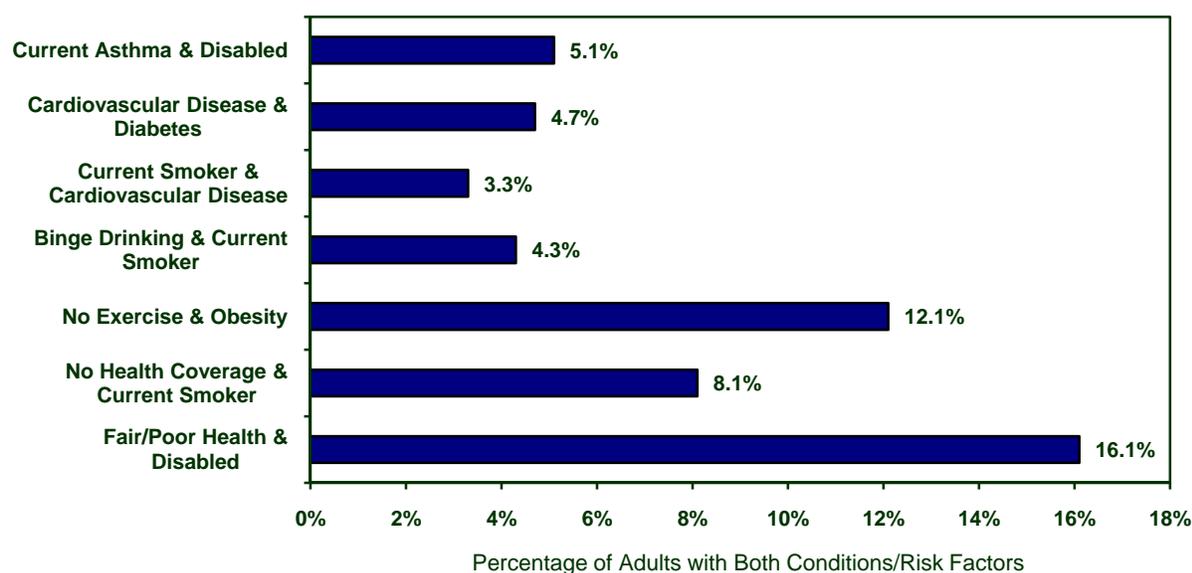
Characteristic	2007			2008		
	# Resp.	%	95% CI	# Resp.	%	95% CI
<b>TOTAL</b>	2,971	<b>35.0</b>	33.0-37.1	2,820	<b>31.8</b>	29.7-33.9
Males	1,215	<b>33.1</b>	30.0-36.3	1,131	<b>29.3</b>	26.1-32.5
Females	1,756	<b>36.9</b>	34.2-39.7	1,689	<b>34.3</b>	31.5-37.2
<b>Age</b>						
18-24	156	<b>34.5</b>	26.7-42.3	133	<b>31.7</b>	23.4-40.0
25-34	451	<b>55.6</b>	50.5-60.8	397	<b>45.5</b>	40.3-50.7
35-44	611	<b>47.0</b>	42.7-51.4	567	<b>40.6</b>	36.2-45.0
45-54	846	<b>23.6</b>	20.5-26.6	802	<b>25.0</b>	21.7-28.3
55-64	907	<b>16.6</b>	13.9-19.3	921	<b>16.7</b>	14.1-19.3
<b>Education</b>						
Less than H.S.	323	<b>40.1</b>	33.3-46.9	319	<b>29.3</b>	23.0-35.6
H.S. or G.E.D.	1,188	<b>30.2</b>	27.0-33.3	1,104	<b>26.7</b>	23.3-30.0
Some Post-H.S.	747	<b>38.4</b>	34.1-42.7	689	<b>38.5</b>	34.0-43.1
College Graduate	712	<b>37.9</b>	33.8-42.0	706	<b>34.8</b>	30.7-38.9
<b>Income</b>						
Less than \$15,000	372	<b>43.2</b>	37.0-49.4	306	<b>38.7</b>	32.0-45.4
\$15,000- 24,999	471	<b>38.3</b>	32.9-43.6	436	<b>34.6</b>	28.8-40.3
\$25,000- 34,999	350	<b>39.7</b>	33.3-46.0	334	<b>29.3</b>	23.1-35.6
\$35,000-49,999	480	<b>34.1</b>	29.1-39.2	457	<b>30.2</b>	25.0-35.4
\$50,000-74,000	523	<b>35.1</b>	30.3-39.9	476	<b>31.4</b>	26.5-36.3
\$75,000+	529	<b>30.5</b>	26.0-35.1	519	<b>35.1</b>	30.2-39.9

## CHAPTER 22: COMORBIDITIES

### Comorbid Health Conditions and Risk Factors

Many behavior risk factors and health conditions are interrelated. For example, physical activity and nutrition are related to obesity, which is related to cardiovascular diseases. Comorbidity is the presence of more than one health condition or risk factor in an individual at the same time. Identifying common comorbid factors is important to understanding how to prevent and reduce serious health conditions and chronic diseases. The previous 21 chapters of this report provide detailed data on individual health conditions and risk factors. The purpose of this chapter is to introduce some of the common comorbidities among West Virginia adults in 2008 (see Figure 22.1 and Table 22.1).

**Figure 22.1 Common comorbid conditions: WVBRFSS, 2008**



#### DEFINITIONS OF HEALTH CONDITIONS AND RISK FACTORS

**Fair or Poor Health:** Reported health as fair or poor from choices of “excellent,” “very good,” “good,” “fair,” or “poor.”

**No Health Coverage:** Adults aged 18 and older without current health care coverage.

**No Exercise:** Other than their regular job, did not participate in any physical activities or exercise in the past month.

**Obese:** Body Mass Index (BMI) of 30.0 or higher. BMI equals body weight in kilograms divided by height in meters squared.

**Heavy Drinker:** Consumption of more than two alcoholic drinks per day for men and more than one drink per day for women.

**Binge Drinker:** Consumption of five or more alcoholic drinks for males, or four or more alcoholic drinks for females, on one occasion.

**Current Smoker:** Have smoked 100 cigarettes in lifetime and now smoke every day or some days.

**CVD:** Ever been told by a doctor, nurse, or other health professional that they had a heart attack, angina or coronary heart disease, or stroke.

**Diabetes:** Ever been told by a doctor that they have diabetes.

**Current Asthma:** Ever been told by a doctor, nurse, or other health professional that they had asthma and still have asthma.

**Disabled:** Limited in any way in any activities because of physical, mental, or emotional problems.

**Table 22.1 Comorbidities: The prevalence of multiple risk behaviors and/or health conditions among adults: WBRFSS, 2008**

Table interpretation: Each cell represents the percentage of WV adults with both of the conditions/risk factors. For example, 1.9% of WV adults have both cardiovascular disease and asthma.

% of Total Population	Fair or Poor Health	No Health Coverage	No Exercise	Obese	Heavy Drinker	Binge Drinker	Current Smoker	CVD	Diabetes	Current Asthma	Disabled
Fair or Poor Health	24.1 (22.6-25.6)	3.9 (3.2-4.7)	12.2 (11.1-13.3)	10.3 (9.3-11.4)	0.4 (0.2-0.6)	1.0 (0.6-1.4)	7.6 (6.7-8.5)	8.6 (7.7-9.4)	6.7 (5.9-7.5)	4.2 (3.5-4.9)	16.1 (14.9-17.3)
No Health Coverage	3.9 (3.2-4.7)	19.8 (17.9-21.8)	5.3 (4.3-6.2)	5.3 (4.4-6.2)	0.9 (0.5-1.3)	2.5 (1.7-3.3)	8.1 (6.8-9.4)	1.1 (0.7-1.5)	1.2 (0.8-1.5)	1.6 (1.0-2.1)	4.4 (3.6-5.2)
No Exercise	12.2 (11.1-13.3)	5.3 (4.3-6.2)	31.1 (29.4-32.8)	12.1 (10.9-13.3)	0.6 (0.3-0.9)	2.2 (1.5-2.9)	9.6 (8.5-10.8)	6.2 (5.5-6.9)	5.5 (4.8-6.3)	4.0 (3.3-4.8)	12.9 (11.8-14.1)
Obese	10.3 (9.3-11.4)	5.3 (4.4-6.2)	12.1 (10.9-13.3)	31.9 (30.2-33.7)	0.5 (0.2-0.8)	2.5 (1.8-3.2)	7.0 (5.9-8.0)	5.3 (4.6-5.9)	6.4 (5.6-7.2)	4.3 (3.6-5.0)	12.2 (11.1-13.3)
Heavy Drinker	0.4 (0.2-0.6)	0.9 (0.5-1.3)	0.6 (0.3-0.9)	0.5 (0.2-0.8)	2.9 (2.2-3.5)	2.1 (1.5-2.7)	1.6 (1.0-2.2)	*0.2 (0.1-0.3)	*0.1 (0.0-0.2)	*0.2 (0.0-0.4)	0.7 (0.4-1.0)
Binge Drinker	1.0 (0.6-1.4)	2.5 (1.7-3.3)	2.2 (1.5-2.9)	2.5 (1.8-3.2)	2.1 (1.5-2.7)	8.8 (7.5-10.0)	4.3 (3.4-5.3)	0.6 (0.3-0.9)	0.4 (0.2-0.6)	*0.3 (0.1-0.5)	1.5 (1.0-2.0)
Current Smoker	7.6 (6.7-8.5)	8.1 (6.8-9.4)	9.6 (8.5-10.8)	7.0 (5.9-8.0)	1.6 (1.0-2.2)	4.3 (3.4-5.3)	26.5 (24.8-28.3)	3.3 (2.7-3.9)	2.1 (1.6-2.5)	3.2 (2.5-3.8)	8.7 (7.6-9.8)
CVD	8.6 (7.7-9.4)	1.1 (0.7-1.5)	6.2 (5.5-6.9)	5.3 (4.6-5.9)	*0.2 (0.1-0.3)	0.6 (0.3-0.9)	3.3 (2.7-3.9)	14.2 (13.0-15.3)	4.7 (4.0-5.3)	1.9 (1.5-2.3)	8.8 (7.9-9.6)
Diabetes	6.7 (5.9-7.5)	1.2 (0.8-1.5)	5.5 (4.8-6.3)	6.4 (5.6-7.2)	*0.1 (0.0-0.2)	0.4 (0.2-0.6)	2.1 (1.6-2.5)	4.7 (4.0-5.3)	11.9 (10.9-13.0)	1.7 (1.3-2.2)	6.4 (5.6-7.1)
Current Asthma	4.2 (3.5-4.9)	1.6 (1.0-2.1)	4.0 (3.3-4.8)	4.3 (3.6-5.0)	*0.2 (0.0-0.4)	*0.3 (0.1-0.5)	3.2 (2.5-3.8)	1.9 (1.5-2.3)	1.7 (1.3-2.2)	9.6 (8.5-10.7)	5.1 (4.3-5.9)
Disabled	16.1 (14.9-17.3)	4.4 (3.6-5.2)	12.9 (11.8-14.1)	12.2 (11.1-13.3)	0.7 (0.4-1.0)	1.5 (1.0-2.0)	8.7 (7.6-9.8)	8.8 (7.9-9.6)	6.4 (5.6-7.1)	5.1 (4.3-5.9)	29.5 (27.9-31.1)

\* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

**Appendix A**  
**Behavioral Risk Factor Prevalences by Year**  
**West Virginia Behavioral Risk Factor Surveys**  
**1997-2008**

Behavioral Risk Factor	1997		1998		1999		2000		2001		2002		2003		2004		2005		2006		2007		2008	
	(52 Partic.) %	Rank	(54 Partic.) %	Rank	(54 Partic.) %	Rank	(54 Partic.) %	Rank	(52 Partic.) %	Rank	(53 Partic.) %	Rank	(51 Partic.) %	Rank	(54 Partic.) %	Rank	(54 Partic.) %	Rank						
Hypertension <sup>a</sup>	28.3	3	--	--	31.0	3	--	--	32.5	1	33.1	1	33.6	1	--	--	31.4	2	--	--	33.3	3	--	--
Obesity <sup>b</sup>	20.6	4	23.9	1	24.6	1	23.2	5	25.1	2	27.6	1	27.7	3	27.6	3	30.6	3	31.0	2	30.3	5	31.9	3
Physical Inactivity	--	--	43.7	3	--	--	33.6	6	31.7	7	28.4	10	28.0	11	24.5	18	28.5	11	25.6	12	28.2	11	31.1	5
Current Smoking	27.4	5	27.9	3	27.1	6	26.1	6	28.2	4	28.4	4	27.3	3	26.9	2	26.7	4	25.7	2	26.9	3	26.5	2
Smokeless Tobacco <sup>c</sup>	8.7	1	8.4	1	8.6	1	8.8	1	8.2	1	8.4	2	7.7	1	8.1	2	--	--	--	--	--	--	--	--
Heavy Drinking <sup>d</sup>	2.2	48	--	--	3.0	46	--	--	3.0	52	4.5	45	3.1	49	2.9	50	3.1	49	--	--	3.4	51	2.9	54
Binge Drinking	8.4	49	--	--	8.5	50	--	--	9.4	52	11.4	49	11.1	49	9.7	48	9.1	51	11.1	46	9.8	52	8.8	53
Seatbelt Nonuse <sup>e</sup>	29.3	30	29.8	4	29.7	--	--	--	--	--	25.6	18	--	--	--	--	--	--	--	--	--	--	--	--

Source: Centers for Disease Control & Prevention - 1997-2008 Behavioral Risk Factor Data; West Virginia Health Statistics Center, 2009.

-- Prevalence / rank not available

<sup>a</sup> Hypertension: Asked in 13 states/territories in 2002.

<sup>b</sup> Obesity: Defined as a Body Mass Index of 30.0 or more (BMI=weight in kg/height in meters squared). For the year 1997, publications before 2003 defined obesity as at least 20% more than the ideal weight for height (as calculated from the 1959 Metropolitan Life Insurance height and weight tables).

<sup>c</sup> Smokeless Tobacco Use: Asked in 17 states/territories in 1997; 13-1998; 19-1999; 18-2000; 15-2001; 15-2002; 12-2003; 14-2004.

<sup>d</sup> Heavy Drinking: 51 states in 1997 and 1999. Defined as consumption of more than two drinks per day for men and more than one drink per day for women; publications before 2003 defined heavy drinking as consumption of 60 or more drinks during the past month regardless of gender.

<sup>e</sup> Seatbelt Nonuse: Defined as using a seatbelt almost always, sometimes, seldom, or never; 8 states/territories in 1998.

NOTE: Figures in Appendix A may not agree with 2002 and earlier year BRFSS reports of 1997 and 1998 data. Rates have been re-calculated to exclude unknown responses.

## Appendix B

### Behavioral Risk Factor Prevalences in 50 States, District of Columbia, and Territories<sup>a</sup> United States, 1997

State	No Health Insurance, Ages 18-64		Diabetes Awareness		Hypertension Awareness		Obesity <sup>b</sup>		Current Smoking		Smokeless Tobacco Use		Binge Drinking		Heavy Drinking <sup>c</sup>		Drinking & Driving		Seatbelt Nonuse	
	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk
Alabama	17.3	16	7.0	2	28.9	2	18.2	15	24.6	14	5.4	5	11.4	37	4.0	19	1.5	36	33.7	21
Alaska	22.8	4	3.3	48	22.6	31	19.7	5	26.5	8	5.6	4	16.5	10	3.2	37	2.2	23	34.1	20
Arizona	17.9	13	3.1	49	16.3	52	12.4	51	21.1	42	1.4	17	8.8	46	3.7	26	1.4	39	19.5	45
Arkansas	21.6	9	5.1	17	26.3	8	18.1	16	28.4	3			9.2	43	2.8	43	1.6	33	34.3	19
California	22.7	5	5.6	12	21.2	42	16.0	32	18.4	50			15.2	19			2.5	18	12.7	52
Colorado	14.0	28	3.9	43	20.4	49	11.8	52	22.5	33			15.3	18	3.3	33	2.5	18	28.5	31
Connecticut	10.8	49	5.1	17	20.6	47	14.7	42	21.6	40			15.5	16	3.8	21	2.1	24	30.7	26
Delaware	13.0	35	6.4	4	25.5	10	18.8	12	26.6	7			11.9	36	3.6	29	2.0	25	30.1	28
D.C.	13.2	33	4.6	33	19.4	51	14.5	45	18.8	48			12.1	35	4.7	11	2.5	18	21.9	44
Florida	22.6	6	5.7	11	26.0	9	16.1	31	23.6	23			13.1	32	5.7	5	1.9	26	23.8	42
Georgia	13.7	31	4.1	38	21.4	40	14.4	46	22.4	35	4.0	8	9.4	41	2.8	43	1.0	43	24.6	39
Hawaii	7.4	52	5.0	20	23.9	18	13.6	50	18.7	49			17.1	9	5.8	4	2.4	21	12.8	51
Idaho	20.1	11	4.0	41	24.1	16	16.3	29	19.9	47			14.9	22	3.8	21	1.3	40	40.4	10
Illinois	13.5	32	7.0	2	24.3	15	17.1	21	23.2	26			16.3	11	4.4	15	2.8	14	31.8	25
Indiana	14.6	25	5.2	15	25.2	12	21.2	3	26.4	9	3.3	12	12.6	34	3.6	29	1.9	26	38.1	13
Iowa	12.0	41	4.6	33	23.4	21	19.4	7	23.1	28			17.9	6	4.4	15	3.8	3	32.8	23
Kansas	11.5	45	3.0	51	20.9	44	14.7	42	22.6	32	5.0	7	13.3	31	3.4	32	2.7	15	46.1	4
Kentucky	16.8	19	5.3	14	27.1	6	21.8	2	30.7	1	6.2	3	9.4	41	2.4	47	0.6	52	34.5	18
Louisiana	24.4	3	5.5	13	25.1	13	19.6	6	24.5	16	3.7	11	15.2	19	5.1	9	3.2	9	25.6	37
Maine	14.3	27	4.9	22	22.8	28	16.2	30	22.7	31			13.8	30	3.7	26	0.9	46	30.4	27
Maryland	11.7	44	5.9	7	23.8	19	17.5	19	20.4	46			6.3	52	2.2	48	0.9	46	23.8	42
Massachusetts	11.0	48	4.7	28	19.8	50	14.8	41	20.5	44			17.9	6	6.0	3	1.8	29	37.0	15
Michigan	11.8	42	5.8	10	23.3	22	19.3	9	26.0	10			18.9	4	5.1	9	3.5	8	27.7	33
Minnesota	9.6	50	3.9	43	21.2	42	16.5	27	21.8	39			15.6	15	3.8	21	3.8	3	40.2	11
Mississippi	18.3	12	6.1	6	34.4	1	22.0	1	23.1	28			9.5	40	3.0	40	1.2	41	43.4	5
Missouri	15.0	24	4.8	26	27.3	5	19.1	10	28.6	2			15.0	21	3.1	39	3.0	12	38.1	13
Montana	17.9	13	3.1	49	22.9	27	14.6	44	20.5	44	5.3	6	14.0	29	2.6	45	2.6	16	42.4	7
Nebraska	9.5	51	4.2	36	22.4	35	17.0	22	22.1	37			16.3	11	3.3	33	3.8	3	42.2	8
Nevada	16.7	20	4.0	41	24.1	16	14.1	48	28.0	4			19.2	3	6.1	2	3.1	11	26.2	35
New Hampshire	12.3	40	3.9	43	22.6	31	14.2	47	24.7	13			16.1	13	3.8	21	1.9	26	41.6	9
New Jersey	14.0	28	5.2	15	23.6	20	16.0	32	21.4	41			13.1	32	2.9	41	1.5	36	27.6	34
New Mexico	25.7	2	4.9	22	21.3	41	14.9	40	22.1	37			14.6	24	4.7	11	1.7	30	16.5	48
New York	16.9	18	4.8	26	22.7	30	16.0	32	23.1	28			9.2	43	3.5	31	0.8	46	25.5	38
North Carolina	17.2	17	5.0	20	23.3	22	18.3	14	25.8	11			9.0	45	3.3	33	1.1	42	15.2	50
North Dakota	14.4	26	3.5	47	25.5	10	17.0	22	22.3	36			18.4	5	3.2	37	3.7	3	59.6	1
Ohio	12.7	39	4.7	28	22.0	37	17.7	17	25.1	12	2.4	16	8.7	48	2.6	45	1.0	43	30.0	29
Oklahoma	20.9	10	5.9	7	21.7	38	15.1	38	24.6	14	3.8	9	8.8	46	2.9	41	1.5	36	36.9	16
Oregon	15.2	23	4.7	28	22.8	28	19.4	7	20.7	43			14.3	28	4.6	13	1.6	33	16.0	49
Pennsylvania	11.5	45	5.1	17	21.7	38	17.5	19	24.2	20	3.8	9	14.6	24	3.7	26	1.7	30	32.5	24
Puerto Rico	11.8	42	10.5	1	20.9	44	19.0	11	14.4	51			10.9	38	4.0	19	3.2	9	24.5	40
Rhode Island	13.1	34	4.9	22	22.5	33	13.8	49	24.3	18			14.9	22	5.4	8	1.6	33	43.1	6
South Carolina	17.6	15	4.9	22	26.8	7	16.9	25	23.4	24	2.8	14	9.7	39	3.8	21	0.9	46	19.5	45
South Dakota	16.4	21	3.8	46	20.6	47	17.0	22	24.3	18			20.9	2	4.3	18	3.7	6	57.9	2
Tennessee	13.9	30	4.4	35	27.8	4	17.7	17	26.9	6			7.2	51	2.0	50	1.0	43	33.5	22
Texas	28.2	1	5.9	7	23.1	25	18.7	13	22.5	33			17.4	8	5.5	6	4.0	2	18.6	47
Utah	12.8	37	4.1	38	22.5	33	15.2	36	13.8	52			7.7	50	1.9	51	0.8	50	35.0	17
Vermont	16.5	21	4.7	28	20.9	44	15.9	35	23.3	25			16.1	13	5.5	6	3.0	12	26.2	35
Virginia	12.8	37	4.2	36	24.5	14	16.4	28	24.4	17	3.0	13	14.5	26	4.4	15	2.4	21	28.3	32
Washington	13.0	35	4.1	38	23.2	24	15.2	36	23.8	22	2.8	14	14.5	26	4.5	14	1.7	30	24.1	41
West Virginia	22.4	7	6.3	5	28.3	3	20.6	4	27.4	5	8.7	1	8.4	49	2.2	48	0.8	50	29.3	30
Wisconsin	11.2	46	4.7	27	23.1	25	16.6	26	23.2	26			23.3	1	6.2	1	5.2	1	38.7	12
Wyoming	22.4	7	3.0	51	22.1	36	15.0	39	24.0	21	7.6	2	15.4	17	3.3	33	2.6	16	49.8	3
<b>US Total</b>	<b>16.9</b>		<b>5.2</b>		<b>23.2</b>		<b>16.9</b>		<b>22.9</b>		<b>N/A</b>		<b>13.4</b>		<b>4.0</b>		<b>2.1</b>		<b>26.7</b>	

Source: Centers for Disease Control & Prevention - 1997 Behavioral Risk Factor Data; West Virginia Health Statistics Center, 2005.

NOTE: Figures in Appendix B may not agree with 1997 data in 2002 and earlier year BRFSS reports. Rates have been re-calculated to exclude unknown responses.

a. 52 states/territories conducted the survey. States/territories with the same prevalence share the same rank.

b. Obesity has been redefined to match the current definition: a BMI of 30 or higher.

c. Heavy drinking has been redefined to match the 2001 definition: more than two drinks per day for men and more than one drink per day for women.

## Appendix C

### Behavioral Risk Factor Prevalences in 50 States, District of Columbia, and Territories<sup>a</sup> United States, 1998

State	Fair or Poor Health		No Health Insurance, Ages 18-64		Diabetes Awareness		Obesity <sup>b</sup>		No Leisure Exercise		Less Than 5 Per Day Fruits/Veg		Current Smoking		Smokeless Tobacco Use		No Flu Shot Past 12 Mo., Ages 65+		Never had Pneumovax, Ages 65+	
	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk
Alabama	21.3	4	19.5	12	7.0	5	21.3	5	29.7	22	76.1	28	24.6	14						
Alaska	11.0	46	21.8	7	3.0	51	21.4	4	23.5	41	76.8	23	26.1	7	5.4	4				
Arizona	10.3	50	15.8	22	2.8	52	13.1	52	51.3	2	90.9	2	21.8	36						
Arkansas	20.4	6	19.1	14	6.7	7	19.8	15	35.9	8	72.1	45	25.9	11						
California	14.6	18	21.2	9	5.5	24	17.3	33	25.5	34	72.5	43	19.2	48						
Colorado	11.6	43	17.3	17	4.6	34	14.4	49	21.3	45	74.0	36	22.8	27						
Connecticut	11.7	41	10.6	45	4.5	35	15.5	42	27.2	28	72.0	47	20.9	43						
Delaware	12.8	26	9.7	51	4.4	37	17.2	34	35.4	10	73.3	40	24.5	16	1.1	13				
D.C.	12.4	30	13.0	33	7.1	4	20.2	11	38.5	6	82.3	7	21.6	38						
Florida	15.5	13	22.4	5	6.3	10	18.0	30	31.1	18	75.1	30	22.0	34						
Georgia	15.9	12	16.9	19	5.9	16	19.2	21	29.6	23	79.3	14	23.6	21			36.9	4	49.6	8
Hawaii	12.3	32	7.0	52	5.6	21	15.5	42	18.0	50	72.5	43	19.5	47						
Idaho	12.2	35	18.3	16	4.3	42	16.4	36	20.4	47	76.2	26	20.3	45	3.6	7				
Illinois	12.5	28	13.0	33	6.2	12	18.5	25	27.1	29	77.3	21	23.1	25			35.3	6	45.3	11
Indiana	13.3	25	15.9	21	6.0	13	19.9	14	27.1	29	76.5	24	26.0	9	2.6	12	33.7	8	53.2	4
Iowa	11.2	44	10.7	44	5.2	29	19.8	15	26.7	31	81.4	9	23.4	22						
Kansas	12.0	38	13.0	33	4.0	44	17.7	31	38.3	7	76.5	24	21.1	42						
Kentucky	21.9	3	17.3	17	5.6	21	20.4	10	42.6	5	84.3	4	30.8	1						
Louisiana	16.1	10	25.9	2	6.4	8	21.8	3	32.2	17	82.7	6	25.5	12			40.3	1	60.4	1
Maine	12.5	28	15.7	25	3.6	48	17.4	32	27.7	26	73.6	39	22.4	31						
Maryland	13.9	20	15.7	25	5.4	26	20.5	8	20.3	48	69.9	50	22.4	31						
Massachusetts	10.9	47	10.5	46	3.9	45	14.3	50	25.4	36	69.0	51	20.9	43						
Michigan	14.5	19	11.9	41	7.0	5	21.2	6	21.4	44	72.6	42	27.4	4						
Minnesota	10.4	49	9.9	49	4.7	33	16.2	38	25.5	34	68.1	52	18.0	50			36.4	5	53.9	3
Mississippi	21.0	5	22.5	4	7.6	3	22.8	2	33.8	11	84.4	3	24.1	17						
Missouri	15.2	14	15.8	22	5.7	19	20.5	8	27.9	24	80.0	11	26.4	6						
Montana	12.0	38	21.3	8	3.6	48	15.0	47	25.2	37	76.2	26	21.4	39	6.8	3	27.1	13	44.1	12
Nebraska	12.3	32	9.8	50	5.2	29	18.3	26	26.1	32	82.3	7	22.0	34						
Nevada	12.4	30	19.2	13	4.4	37	14.0	51	24.1	40	77.9	19	30.3	2						
New Hampshire	9.9	52	13.7	32	3.9	45	15.6	41	24.8	38	72.1	45	23.3	24						
New Jersey	11.8	40	11.8	42	5.4	26	15.5	42	32.6	16	73.9	37	19.1	49			33.3	9	52.8	5
New Mexico	15.0	17	25.7	3	5.0	31	15.2	45	23.0	43	79.3	14	22.5	30						
New York	13.8	21	16.6	20	6.0	13	16.3	37	31.0	19	74.5	33	24.1	17						
North Carolina	16.6	9	15.2	27	6.4	8	19.4	18	27.7	26	78.6	17	24.6	14						
North Dakota	13.7	22	12.7	38	4.2	43	19.2	21	33.1	14	77.2	22	20.0	46	4.0	5				
Ohio	16.1	10	10.4	47	5.8	18	20.0	13	29.8	21	84.0	5	26.0	7	3.5	8	31.0	10	51.4	6
Oklahoma	12.6	27	22.3	6	7.8	2	19.5	17	42.9	4	79.7	13	23.9	19	3.8	6				
Oregon	13.4	24	15.8	22	5.3	28	18.3	26	18.9	49	75.1	30	21.1	41						
Pennsylvania	15.1	16	12.9	36	5.6	21	19.4	18	32.7	15	75.1	30	23.8	20						
Puerto Rico	32.4	1	12.6	39	9.6	1	19.3	20	57.4	1	91.9	1	15.3	51						
Rhode Island	13.5	23	11.7	43	6.0	13	16.8	35	29.9	20	75.4	29	22.6	29						
South Carolina	15.2	14	18.7	15	5.7	19	20.6	7	33.7	12	78.2	18	24.7	13	3.1	9	37.5	2	49.3	9
South Dakota	11.7	41	15.2	27	3.1	50	15.8	40	33.3	13	80.0	11	27.2	5						
Tennessee	18.2	8	14.8	29	5.9	16	19.2	21	35.8	9	70.3	49	26.1	9			30.4	11	48.9	10
Texas	18.6	7	27.5	1	5.5	24	20.2	11	27.9	24	77.5	20	21.9	36			35.3	6	50.1	7
Utah	10.8	48	13.8	30	4.4	37	15.9	39	17.1	52	73.8	38	14.2	52						
Vermont	10.0	51	12.4	40	4.4	37	14.8	48	26.0	33	70.8	48	22.3	33						
Virginia	12.3	32	13.8	30	4.5	35	18.7	24	24.8	38	73.0	41	22.9	26	3.0	10				
Washington	11.1	45	12.8	37	4.9	32	18.1	29	17.6	51	74.2	35	21.4	39	3.0	10				
West Virginia	23.9	2	20.6	10	6.3	10	23.9	1	43.7	3	81.3	10	27.9	3	8.4	1	37.1	3	54.9	2
Wisconsin	12.1	36	10.0	48	4.4	37	18.3	26	23.4	42	74.3	34	23.4	22						
Wyoming	12.1	36	20.2	11	3.7	47	15.1	46	21.0	46	78.8	16	22.8	27	6.9	2	28.6	12	44.1	12
<b>US Total</b>	<b>14.8</b>		<b>16.8</b>		<b>5.6</b>		<b>18.4</b>		<b>29.1</b>		<b>76.1</b>		<b>22.8</b>		<b>N/A</b>		<b>N/A</b>		<b>N/A</b>	

Source: Centers for Disease Control & Prevention - 1998 Behavioral Risk Factor Data; West Virginia Health Statistics Center, 2005.

NOTE: Figures in Appendix C may not agree with 1998 data in 2002 and earlier year BRFSS reports. Rates have been re-calculated to exclude unknown responses.

a. 52 states/territories conducted the survey. States/territories with the same prevalence share the same rank.

b. Obesity has been redefined to match the current definition: a BMI of 30 or higher.

## Appendix D

### Behavioral Risk Factor Prevalences in 50 States, District of Columbia, and Territories<sup>a</sup> United States, 1999

State	Fair or Poor Health		No Health Insurance, Ages 18-64		Diabetes Awareness		Hypertension Awareness		Obesity (BMI 30+)		Current Smoking		Smokeless Tobacco Use		Binge Drinking		Heavy Drinking <sup>b</sup>		Drinking & Driving	
	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk
Alabama	18.4	8	18.0	17	7.4	3	31.2	2	22.4	5	23.5	19			11.7	43	4.0	35	1.9	36
Alaska	10.7	47	24.8	4	3.5	52	21.3	46	20.4	20	27.3	4	5.4	5	18.9	8	5.1	18	2.1	32
Arizona	8.4	52	16.7	20	4.3	45	14.2	52	12.3	52	20.1	46	0.8	18	8.8	49	7.7	2	1.8	38
Arkansas	19.7	6	19.8	14	6.6	7	28.4	6	22.7	4	27.2	5			10.3	46	3.3	44	1.5	44
California	15.8	13	22.2	6	6.1	15	23.0	33	18.7	31	18.7	49			15.5	24			2.3	29
Colorado	11.5	43	16.3	21	3.8	51	22.2	39	14.9	49	22.5	27	3.8	10	17.2	17	5.7	11	3.6	10
Connecticut	11.6	41	12.3	41	4.3	45	20.4	51	15.1	48	22.8	26			14.0	31	4.5	27	2.9	17
Delaware	12.4	34	11.3	45	6.0	21	25.5	17	17.5	38	25.5	9			18.9	8	5.5	14	3.2	13
D.C.	13.0	27	15.2	24	6.5	9	24.7	21	18.5	33	20.6	41			13.0	34	4.1	34	1.4	47
Florida	15.3	15	20.4	9	6.9	5	27.8	7	18.6	32	20.6	41			12.9	35	5.1	18	2.0	34
Georgia	15.0	16	15.6	23	5.6	27	26.3	12	21.1	14	23.8	16			12.5	37	3.9	36	1.5	44
Hawaii	14.3	18	10.3	49	5.2	35	22.7	37	15.7	46	18.5	50			14.0	31	5.6	13	2.3	29
Idaho	12.9	28	20.0	12	4.8	41	23.0	33	20.0	23	21.5	37			14.7	29	4.3	31	1.8	38
Illinois	14.7	17	13.6	32	6.4	10	26.7	10	20.9	17	24.2	14			19.7	4	6.1	8	4.4	3
Indiana	12.8	31	15.1	25	6.6	7	25.7	16	19.9	24	27.0	8			19.1	6	7.1	3	3.2	13
Iowa	12.1	37	10.9	48	5.2	35	24.2	24	21.5	11	23.5	19			18.3	10	5.9	9	3.9	7
Kansas	12.9	28	12.5	39	5.4	29	21.4	45	18.9	30	21.0	40			11.7	43	3.7	39	2.8	18
Kentucky	21.6	3	17.3	19	6.4	10	27.5	8	21.7	8	29.7	2			9.8	48	2.8	48	1.6	42
Louisiana	16.9	11	25.8	2	6.1	15	26.0	15	22.3	6	23.5	19	4.1	8	15.0	25	4.8	24	3.6	10
Maine	12.9	28	16.1	22	5.4	29	26.6	11	19.4	28	23.3	22			14.8	28	4.7	25	1.1	51
Maryland	14.2	19	11.1	47	6.8	6	24.5	23	18.2	34	20.3	44			15.9	21	5.1	18	2.4	24
Massachusetts	11.6	41	8.3	51	5.0	38	21.8	44	14.7	50	19.3	48			17.4	12	5.8	10	2.8	18
Michigan	11.5	43	11.4	44	5.4	29	25.2	18	22.8	3	25.1	11			19.0	7	7.0	4	3.1	15
Minnesota	10.0	49	6.8	52	4.8	41	22.0	41	15.5	47	19.5	47			16.3	20	5.4	15	4.1	5
Mississippi	20.9	4	20.3	11	7.9	2	33.5	1	23.2	2	22.9	25	6.1	4	12.1	40	4.3	31	2.7	21
Missouri	15.7	14	13.1	36	6.1	15	24.6	22	21.7	8	27.1	6	3.9	9	16.4	19	5.0	21	3.0	16
Montana	10.9	46	20.9	8	5.9	23	23.2	32	15.8	44	20.2	45	6.2	3	17.6	11	4.9	23	3.4	12
Nebraska	12.4	34	9.8	50	4.3	45	22.0	41	21.0	16	23.2	23	4.5	7	16.6	18	3.9	36	3.7	9
Nevada	13.8	21	21.2	7	5.8	24	29.1	4	15.8	44	31.5	1	3.2	13	21.0	2	9.3	1	5.5	1
New Hampshire	10.6	48	13.2	34	4.3	45	23.4	31	14.6	51	22.3	32			20.0	3	6.8	5	3.8	8
New Jersey	12.7	32	14.1	29	5.4	29	23.5	29	17.0	40	20.6	41			12.3	38	3.4	43	1.3	48
New Mexico	16.9	11	25.8	2	5.5	28	20.9	49	17.7	37	22.5	27			14.9	26	4.4	30	2.3	29
New York	13.7	22	17.4	18	5.7	26	22.9	35	17.4	39	21.8	35	0.8	18	13.9	33	4.5	27	1.6	42
North Carolina	17.9	9	13.6	32	6.1	15	24.0	26	21.5	11	25.1	11			12.0	42	2.9	47	1.7	40
North Dakota	12.2	36	13.8	31	5.0	38	26.1	14	21.9	7	22.1	34			19.7	4	4.2	33	4.4	3
Ohio	13.7	22	12.2	42	6.1	15	27.4	9	20.3	21	27.6	3	3.0	15	12.1	40	2.3	51	1.2	49
Oklahoma	17.4	10	20.4	9	5.8	24	20.9	49	21.1	14	25.2	10	5.0	6	8.1	51	2.5	49	2.5	23
Oregon	13.7	22	18.6	15	4.6	43	22.3	38	19.9	24	21.4	38			14.9	26	4.5	27	1.9	36
Pennsylvania	13.7	22	12.5	39	6.4	10	23.9	27	20.3	21	23.1	24	3.4	11	15.9	21	4.7	25	2.4	24
Puerto Rico	33.0	1	13.2	34	9.6	1	26.2	13	21.3	13	13.7	52			10.6	45	3.6	40	2.0	34
Rhode Island	12.6	33	12.6	38	5.3	33	22.9	35	16.8	42	22.3	32			15.6	23	5.2	16	2.6	22
South Carolina	13.9	20	18.2	16	6.4	10	25.2	18	20.6	18	23.6	18			12.3	38	5.0	21	2.1	32
South Dakota	13.1	26	13.0	37	4.9	40	23.8	28	19.6	27	22.5	27			17.4	12	3.6	40	4.1	5
Tennessee	19.9	5	14.2	27	6.0	21	28.6	5	20.5	19	24.8	13			7.7	52	2.5	49	1.5	44
Texas	19.2	7	26.3	1	6.2	14	24.2	24	21.6	10	22.4	30	3.2	13	17.3	15	5.7	11	2.8	18
Utah	10.0	49	14.2	27	4.2	50	21.3	46	16.7	43	14.0	51	1.8	17	10.2	47	3.1	45	1.2	49
Vermont	9.9	51	14.8	26	4.3	45	21.0	48	18.0	36	21.7	36			17.4	12	6.5	6	2.4	24
Virginia	11.7	40	11.2	46	6.1	15	23.5	29	19.3	29	21.4	38	3.3	12	12.7	36	3.9	36	2.4	24
Washington	12.0	38	14.1	29	5.2	35	22.1	40	18.2	34	22.4	30	2.7	16	14.4	30	5.2	16	1.7	40
West Virginia	23.9	2	22.3	5	7.3	4	31.0	3	24.6	1	27.1	6	8.6	1	8.5	50	3.0	46	1.1	51
Wisconsin	11.9	39	12.1	43	5.3	33	25.0	20	19.9	24	23.7	17			27.0	1	6.4	7	4.9	2
Wyoming	11.3	45	19.9	13	4.6	43	22.0	41	16.9	41	23.9	15	8.1	2	17.3	15	3.6	40	2.4	24
<b>US Total</b>	<b>14.9</b>		<b>18.6</b>		<b>5.9</b>		<b>24.4</b>		<b>19.4</b>		<b>22.5</b>		<b>N/A</b>		<b>14.7</b>		<b>4.8</b>		<b>2.4</b>	

Source: Centers for Disease Control & Prevention - 1999 Behavioral Risk Factor Data; West Virginia Health Statistics Center, 2005.

a. 52 states/territories conducted the survey. States/territories with the same prevalence share the same rank.

b. Heavy drinking has been redefined to match the 2001 definition: more than two drinks per day for men and more than one drink per day for women.

## Appendix E

### Behavioral Risk Factor Prevalences in 50 States, District of Columbia, and Territories<sup>a</sup> United States, 2000

State	Fair or Poor Health		No Health Insurance, Ages 18-64		Diabetes Awareness		Obesity (BMI 30+)		No Leisure Exercise		Less Than 5 Per Day Fruits/Veg		Current Smoking		Smokeless Tobacco Use		Have had Heart Attack		Have had Stroke	
	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk
Alabama	19.3	6	19.4	13	7.4	4	23.9	2	31.6	9	77.3	23	25.2	10						
Alaska	10.2	50	19.1	14	3.8	52	21.0	23	20.0	48	76.3	34	25.0	12	5.7	5				
Arizona	14.8	21	20.7	9	5.9	33	19.2	33	34.2	5	63.1	52	18.6	49						
Arkansas	19.0	7	20.9	8	6.2	23	23.3	4	28.1	21	77.5	21	25.1	11						
California	16.7	11	21.3	7	6.8	11	19.9	29	26.5	29	73.3	41	17.2	50						
Colorado	12.7	37	15.8	22	5.1	44	14.2	52	19.8	49	76.6	30	20.0	43	4.1	8				
Connecticut	13.9	27	10.6	44	5.5	38	17.4	45	25.2	31	70.7	48	19.9	44						
Delaware	12.4	38	9.7	49	6.4	18	16.6	49	28.0	23	77.5	21	22.9	28			4.2	8	2.3	8
D.C.	12.2	41	12.8	32	7.2	5	21.5	16	20.8	46	68.1	50	20.9	39			3.0	14	2.7	3
Florida	15.3	17	21.6	6	6.9	10	18.7	37	28.8	17	76.7	27	23.2	25						
Georgia	15.2	19	16.5	19	6.8	11	21.5	16	29.0	16	77.7	19	23.5	21			3.7	12	2.2	10
Hawaii	12.4	38	8.3	51	5.2	42	15.7	51	23.2	40	77.6	20	19.7	47						
Idaho	13.1	31	20.4	10	4.9	46	18.9	35	19.8	49	78.9	13	22.3	29	3.3	13				
Illinois	13.0	34	12.8	32	6.2	23	21.7	14	30.9	11	76.8	29	22.3	29						
Indiana	14.1	26	12.3	36	6.0	29	21.8	12	25.4	30	80.0	7	26.9	4			5.2	5	2.5	5
Iowa	10.9	49	10.9	43	6.1	27	21.5	16	27.3	25	81.9	3	23.2	25	3.0	16	4.1	10	1.9	12
Kansas	12.4	38	12.9	30	5.9	33	20.8	24	30.4	12	76.6	30	21.0	37						
Kentucky	21.6	3	16.6	18	6.5	16	23.0	7	41.1	2	77.3	23	30.5	1			5.4	2	2.8	2
Louisiana	16.3	13	25.6	3	6.6	15	23.6	3	36.2	3	84.2	2	24.1	15	3.5	11				
Maine	14.7	23	16.3	20	6.0	29	20.0	27	27.2	26	75.5	36	23.8	18						
Maryland	12.8	35	11.1	40	6.4	18	20.2	26	24.2	38	72.6	43	20.5	42	1.4	18				
Massachusetts	13.5	29	9.9	48	5.8	35	16.8	48	24.6	35	70.0	49	19.9	44						
Michigan	13.7	28	10.1	46	7.0	9	22.4	9	22.9	43	76.9	26	24.1	15						
Minnesota	9.7	52	8.3	51	4.9	46	17.4	45	24.8	34	75.7	35	19.8	46						
Mississippi	20.2	4	22.7	5	7.6	2	25.0	1	33.3	7	81.4	5	23.5	21	7.3	3	5.3	4	2.6	4
Missouri	15.3	16	13.4	28	6.7	14	22.1	10	28.8	17	79.3	12	27.2	3						
Montana	11.3	46	18.0	16	4.9	46	15.9	50	23.3	39	77.2	25	18.8	48	6.3	4	3.4	13	2.3	8
Nebraska	11.3	46	11.1	40	4.9	46	21.1	22	29.6	14	79.4	10	21.2	36	3.9	10				
Nevada	15.8	14	16.0	21	6.8	11	17.9	43	24.9	32	78.7	14	29.0	2	2.6	17				
New Hampshire	10.1	51	10.3	45	4.4	50	18.1	41	26.7	27	73.8	40	25.3	9						
New Jersey	15.7	15	15.4	23	5.8	35	18.5	38	28.6	19	72.6	43	21.0	37						
New Mexico	17.1	9	27.7	1	6.5	16	19.3	32	24.4	36	79.5	9	23.6	20						
New York	14.7	23	15.3	24	6.3	22	17.7	44	29.4	15	72.5	45	21.6	33						
North Carolina	16.6	12	15.1	25	6.4	18	21.8	12	30.4	12	77.9	18	26.1	6	5.2	6				
North Dakota	11.5	44	14.2	26	5.2	42	20.4	25	24.3	37	76.8	27	23.2	25						
Ohio	13.3	30	12.3	36	6.4	18	21.5	16	31.3	10	78.6	15	26.2	5	3.4	12	5.4	2	2.5	5
Oklahoma	15.3	16	20.1	12	5.5	38	19.7	31	34.4	4	81.8	4	23.3	24	4.5	7	4.0	11	1.7	13
Oregon	16.9	10	18.1	15	6.0	29	21.5	16	20.1	47	73.2	42	20.7	40						
Pennsylvania	14.4	25	11.1	40	7.1	7	21.2	21	23.0	42	76.7	29	24.3	14			4.6	6	2.4	7
Puerto Rico	32.8	1	10.1	46	8.5	1	21.7	14	54.1	1	92.8	1	13.1	51						
Rhode Island	14.8	21	13.6	27	6.0	29	17.1	47	27.5	24	70.8	47	23.4	23						
South Carolina	15.0	20	16.9	17	7.1	7	22.0	11	28.1	21	75.4	37	24.9	13			4.5	7	1.7	13
South Dakota	12.1	42	12.7	35	5.7	37	19.8	30	26.7	27	80.1	6	21.9	31						
Tennessee	18.3	8	13.2	29	7.2	5	22.9	8	32.7	8	65.9	51	25.7	8						
Texas	20.2	4	26.9	2	6.2	23	23.1	6	28.5	20	76.6	30	21.9	31	4.1	8				
Utah	11.5	44	12.8	34	5.4	41	19.1	34	15.5	52	79.4	10	12.9	52						
Vermont	11.2	48	11.7	38	4.4	50	18.2	39	23.2	40	71.3	46	21.5	34						
Virginia	13.1	31	12.9	30	6.2	23	18.2	39	25.0	32	74.4	39	21.4	35	3.1	14	4.2	8	2.1	11
Washington	11.9	43	11.5	39	5.5	38	18.8	36	16.9	51	75.3	38	20.7	40	3.1	14				
West Virginia	25.4	2	23.5	4	7.6	2	23.2	5	33.6	6	78.6	15	26.1	6	8.8	1	7.6	1	3.1	1
Wisconsin	12.8	35	8.9	50	6.1	27	20.0	27	22.1	45	78.3	17	24.1	15						
Wyoming	13.1	31	20.2	11	5.0	45	18.0	42	22.6	44	79.6	8	23.8	18	7.5	2				
<b>US Total</b>	<b>15.5</b>		<b>16.3</b>		<b>6.4</b>		<b>20.4</b>		<b>27.8</b>		<b>75.8</b>		<b>22.2</b>		<b>N/A</b>		<b>N/A</b>		<b>N/A</b>	

Source: Centers for Disease Control & Prevention - 2000 Behavioral Risk Factor Data; West Virginia Health Statistics Center, 2005.

a. 52 states/territories conducted the survey. States/territories with the same prevalence share the same rank.

## Appendix F

### Behavioral Risk Factor Prevalences in 50 States, District of Columbia, and Territories<sup>a</sup> United States, 2001

State	Fair or Poor Health		No Health Insurance, Ages 18-64		Diabetes Awareness		Hypertension Awareness		Obesity (BMI 30+)		No Leisure Exercise		Current Smoking		Smokeless Tobacco Use		Binge Drinking		Heavy Drinking	
	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk
Alabama	21.2	5	17.8	21	9.6	2	31.6	2	24.5	7	31.2	10	23.8	22			11.6	44	4.2	42
Alaska	11.3	49	20.3	11	4.0	54	21.8	51	22.1	21	21.1	44	26.2	8			18.2	5	5.8	13
Arizona	16.1	15	20.5	9	6.1	34	23.6	43	18.5	48	21.9	41	21.5	41	2.6	13	16.8	10	6.1	9
Arkansas	19.5	8	19.9	14	7.8	9	29.7	5	22.4	17	31.5	8	25.5	13	6.5	3	11.3	45	4.6	37
California	16.0	16	17.3	22	6.5	28	23.3	45	21.9	23	26.6	19	17.2	51			15.5	22	6.2	8
Colorado	13.2	34	17.9	19	4.6	50	21.6	52	14.9	54	19.2	50	22.3	33	4.0	9	16.7	11	5.5	16
Connecticut	11.5	47	11.3	46	6.3	31	24.0	41	17.9	49	24.0	34	20.6	45	0.7	15	13.8	34	5.2	24
Delaware	13.1	37	10.1	49	7.1	16	27.2	13	20.8	30	25.7	28	25.0	15			15.7	19	7.1	4
D.C.	13.2	34	14.2	30	8.3	6	29.0	7	20.0	36	24.2	32	20.8	44			14.8	27	6.1	9
Florida	16.0	16	21.5	8	8.2	7	26.9	15	18.8	46	27.7	13	22.4	30			12.0	40	5.5	16
Georgia	15.9	18	15.9	27	6.9	19	26.9	15	22.7	13	27.3	16	23.7	24			11.9	41	3.9	47
Guam	18.1	10	20.0	13	9.5	3	24.5	35	21.2	25	27.4	15	31.2	1			18.1	6	5.3	23
Hawaii	12.4	44	8.8	53	6.2	32	24.1	37	17.9	49	18.9	51	20.5	46			10.4	49	5.1	28
Idaho	13.0	38	17.9	19	5.4	45	24.6	34	20.5	32	21.0	45	19.6	49			12.8	38	4.2	42
Illinois	13.6	31	11.7	42	6.6	25	24.8	33	21.0	28	26.5	21	23.7	24			17.3	9	5.5	16
Indiana	14.0	28	16.2	26	6.5	28	25.8	25	24.5	7	26.2	24	27.4	6			13.8	34	4.4	39
Iowa	11.9	46	10.1	49	5.7	38	25.5	29	22.5	15	25.9	26	22.1	38			16.2	14	4.7	36
Kansas	12.6	41	12.1	40	5.8	37	23.9	42	21.6	24	26.7	18	22.2	35			14.7	28	4.8	33
Kentucky	21.7	4	18.0	18	6.7	21	30.1	4	24.6	5	33.4	4	30.9	2	4.9	7	8.7	53	2.7	53
Louisiana	15.5	20	25.3	4	7.6	12	27.6	11	24.0	9	35.6	2	24.6	16			13.8	34	4.1	44
Maine	13.2	34	15.3	28	6.7	21	25.2	31	19.5	41	23.2	36	23.9	20			15.4	23	5.5	16
Maryland	13.8	30	11.8	41	6.9	19	26.3	22	20.5	32	24.2	32	21.1	42			11.9	41	5.2	24
Massachusetts	12.1	45	9.4	51	5.6	42	23.6	43	16.6	53	22.8	39	19.5	50			18.1	6	7.0	5
Michigan	14.6	25	11.6	44	7.2	13	27.3	12	25.0	3	23.4	35	25.6	12			18.0	8	5.9	11
Minnesota	11.0	51	6.4	54	4.4	52	22.3	49	19.9	37	17.1	52	22.2	35			19.6	3	5.8	13
Mississippi	22.9	3	22.0	7	9.3	4	31.3	3	26.5	1	33.4	4	25.3	14			11.8	43	4.5	38
Missouri	15.5	20	12.9	36	6.6	25	26.5	19	23.2	11	27.5	14	25.9	10			14.1	33	4.8	33
Montana	4.4	26	20.4	10	5.6	42	26.8	17	18.8	46	21.9	41	21.9	40	6.0	4	16.7	11	4.4	39
Nebraska	13.0	38	16.5	25	5.2	47	22.6	47	20.7	31	31.4	9	20.2	48	3.5	11	14.6	30	4.3	41
Nevada	13.6	31	20.2	12	5.7	38	25.6	27	19.5	41	22.6	40	26.9	7			16.7	11	7.8	2
New Hampshire	9.4	54	13.4	33	5.4	45	22.8	46	19.4	43	19.5	49	24.1	19			15.8	17	6.3	7
New Jersey	15.5	20	13.5	32	7.1	16	26.1	23	19.6	40	26.6	19	21.1	42	0.8	14	13.5	37	4.0	46
New Mexico	16.9	11	26.5	3	6.2	32	20.0	54	19.7	38	25.8	27	23.8	22			15.8	17	5.0	30
New York	16.3	14	19.5	15	6.6	25	26.0	24	20.3	35	28.7	12	23.2	27			14.4	31	5.0	30
North Carolina	16.4	13	16.7	23	6.7	21	27.2	13	22.9	12	26.4	22	25.7	11			9.8	50	4.1	44
North Dakota	12.6	41	14.2	30	5.1	48	24.1	37	20.4	34	23.2	36	22.1	38	5.6	6	22.3	2	4.8	33
Ohio	14.2	27	13.0	35	7.2	13	26.6	18	22.4	17	26.2	24	27.6	5			16.2	14	5.4	21
Oklahoma	19.6	7	25.1	5	7.7	10	28.5	9	22.6	14	32.8	6	28.7	3	4.9	7	11.0	48	3.5	50
Oregon	14.8	24	16.6	24	5.7	38	24.9	32	21.1	27	20.8	46	20.5	46			14.7	28	5.9	11
Pennsylvania	14.0	28	11.3	46	6.7	21	28.1	10	22.1	21	24.7	31	24.5	17			15.6	21	5.2	24
Puerto Rico	34.5	1	9.3	52	9.8	1	26.4	21	22.2	20	49.2	1	12.5	53			11.3	45	3.8	49
Rhode Island	15.3	23	10.5	48	6.4	30	25.4	30	17.7	51	24.9	30	23.9	20			15.1	24	7.5	3
South Carolina	15.6	19	19.2	17	8.1	8	28.8	8	22.5	15	26.4	22	26.0	9			12.3	39	5.5	16
South Dakota	12.6	41	12.4	38	6.1	34	24.1	37	21.2	25	25.4	29	22.3	33	5.7	5	18.5	4	3.9	47
Tennessee	19.9	6	12.4	38	7.7	10	29.3	6	23.4	10	35.1	3	24.4	18			6.8	54	2.5	54
Texas	19.3	9	26.6	2	7.1	16	25.6	27	24.6	5	27.1	17	22.4	30	3.9	10	15.1	24	5.4	21
Utah	10.0	53	14.6	29	4.3	53	22.3	49	19.1	45	16.5	54	13.2	52			9.7	51	3.1	51
Vermont	11.5	47	13.4	33	5.1	48	21.4	53	17.6	52	20.3	48	22.4	30			15.7	19	6.8	6
Virgin Islands	16.6	12	31.8	1	7.2	13	26.5	19	24.7	4	29.2	11	9.6	54			11.1	47	5.7	15
Virginia	13.3	33	12.7	37	6.0	36	25.8	25	20.9	29	23.2	36	22.5	28	3.0	12	14.3	32	5.1	28
Washington	12.8	40	11.6	44	5.7	38	24.4	36	19.3	44	17.1	52	22.5	28			14.9	26	5.0	30
West Virginia	24.2	2	23.8	6	8.8	5	32.5	1	25.1	2	31.7	7	28.2	4	8.2	1	9.4	52	3.0	52
Wisconsin	11.2	50	11.7	42	5.6	42	24.1	37	22.4	17	20.7	47	23.6	26			25.7	1	8.7	1
Wyoming	10.9	52	19.5	15	4.5	51	22.4	48	19.7	38	21.2	43	22.2	35	8.1	2	16.0	16	5.2	24
<b>US Total</b>	<b>15.7</b>		<b>16.4</b>		<b>6.8</b>		<b>25.8</b>		<b>21.6</b>		<b>26.4</b>		<b>22.7</b>		<b>N/A</b>		<b>14.5</b>		<b>5.2</b>	

Source: Centers for Disease Control & Prevention - 2001 Behavioral Risk Factor Data; West Virginia Health Statistics Center, 2005.

a. 54 states/territories conducted the survey. States/territories with the same prevalence share the same rank.

b. For 2001, heavy drinking was redefined as > two drinks per day for men and > one drink per day for women. It was defined as > = two drinks per day for all adults previously.

## Appendix G

### Behavioral Risk Factor Prevalences in 50 States, District of Columbia, and Territories<sup>a</sup> United States, 2002

State	Fair or Poor Health		No Health Insurance, Ages 18-64		Diabetes Awareness		Obesity (BMI 30+)		No Leisure Exercise		Less Than 5 Per Day Fruits/Veg		Current Smoking		Binge Drinking		No Flu Shot Past 12 Mo., Ages 65+		Seatbelt Nonuse	
	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk
Alabama	19.7	8	18.2	22	8.5	5	25.7	4	27.3	14	78.9	18	24.4	18	14.5	36	35.2	13	16.6	41
Alaska	13.0	38	20.1	15	3.5	54	23.4	18	22.4	36	77.2	30	29.3	3	18.2	11	30.5	33	29.4	13
Arizona	15.1	25	19.2	18	6.4	30	19.6	40	22.6	34	77.4	25	23.4	23	16.9	21	30.3	34	19.5	35
Arkansas	19.0	9	22.7	9	7.9	10	23.7	15	27.4	13	79.3	15	26.3	12	12.7	44	31.0	30	35.4	5
California	15.6	22	18.0	23	7.4	15	19.2	44	22.7	33	72.6	40	16.4	51	14.9	35	28.5	39	7.7	53
Colorado	12.5	42	18.6	20	4.4	52	16.5	54	19.3	46	76.1	34	20.4	46	18.6	7	26.7	45	21.1	32
Connecticut	12.2	44	12.7	44	5.9	41	18.0	50	22.0	37	69.7	52	19.4	48	16.3	26	28.6	38	17.7	38
Delaware	14.8	27	10.4	51	7.1	21	22.4	26	27.1	15	80.5	8	24.7	15	18.3	9	28.5	39	19.7	34
D.C.	10.8	53	12.2	46	7.6	13	20.7	34	20.9	41	66.2	53	20.4	46	17.0	20	41.3	6	12.1	50
Florida	15.3	23	22.3	10	7.6	13	19.4	42	27.9	11	72.6	40	22.0	36	13.7	40	43.0	4	16.6	41
Georgia	15.3	23	17.8	24	7.1	21	23.5	16	25.7	20	77.4	25	23.2	25	12.8	43	40.7	7	16.9	40
Guam	18.6	10	23.3	8	8.4	7	23.8	13	24.6	24	73.1	39	31.9	2	17.7	16	55.9	3	14.3	44
Hawaii	11.4	50	10.3	52	5.8	43	17.1	53	16.1	53	79.6	11	21.0	44	11.9	47	26.1	50	10.4	52
Idaho	13.6	34	19.8	17	6.1	38	20.2	38	19.3	46	78.4	20	20.6	45	15.8	30	34.9	15	34.8	6
Illinois	14.9	26	16.4	28	6.8	27	21.9	29	28.6	9	79.1	17	22.8	29	17.8	14	38.9	10	25.3	20
Indiana	16.4	17	17.2	26	7.4	15	24.1	11	27.5	12	78.3	21	27.6	6	15.9	28	33.7	20	23.1	27
Iowa	11.5	49	10.8	49	6.5	29	22.9	23	21.8	39	80.2	9	23.2	25	20.1	4	26.5	46	24.1	24
Kansas	12.4	43	13.1	42	6.4	30	22.8	25	22.5	35	81.8	5	22.1	35	15.8	30	31.4	28	33.3	8
Kentucky	23.8	2	21.1	12	7.0	24	24.4	10	26.6	16	79.8	10	32.6	1	7.9	54	34.3	17	25.5	19
Louisiana	17.9	11	27.1	3	7.1	21	25.5	5	33.5	3	82.8	3	23.9	20	13.6	41	42.7	5	20.7	33
Maine	14.7	28	16.9	27	7.3	17	20.7	34	25.8	19	70.6	49	23.6	22	15.4	33	26.2	49	27.4	16
Maryland	11.7	47	11.3	48	6.9	26	19.4	42	23.0	31	70.3	50	21.9	37	14.4	37	34.1	19	12.5	49
Massachusetts	13.3	37	10.8	49	5.8	43	18.3	49	20.8	42	70.3	50	18.9	50	18.3	9	27.4	43	27.8	15
Michigan	13.4	36	13.8	36	7.9	10	25.4	7	24.1	29	77.4	25	24.2	19	16.9	21	32.3	23	16.2	43
Minnesota	10.9	51	7.9	53	4.9	51	22.4	26	16.2	52	77.3	28	21.7	38	21.1	3	23.4	54	24.5	22
Mississippi	23.0	4	26.7	4	8.6	4	26.8	2	32.5	4	80.8	6	27.3	7	12.4	45	37.0	11	27.2	17
Missouri	17.1	15	15.8	29	7.3	17	23.2	20	26.5	17	80.8	6	26.5	11	17.2	19	31.4	28	33.2	9
Montana	12.8	40	21.1	12	5.5	49	18.7	47	19.2	48	77.3	28	21.2	41	19.8	5	32.3	23	31.5	10
Nebraska	13.7	30	13.8	36	5.8	43	23.2	20	22.0	37	82.0	4	22.7	30	17.6	18	31.7	27	31.3	12
Nevada	17.2	13	25.8	5	6.2	33	21.6	30	24.8	23	77.7	24	26.0	14	19.8	5	39.7	8	21.2	31
New Hampshire	11.6	48	13.6	39	6.2	33	17.9	51	19.9	45	71.5	46	23.2	25	16.6	24	27.7	42	36.2	4
New Jersey	14.7	28	15.7	30	6.1	38	19.0	45	26.0	18	71.8	44	19.0	49	13.9	39	30.9	31	17.4	39
New Mexico	17.0	16	25.0	6	6.2	33	19.7	39	23.0	31	78.1	22	21.2	41	14.4	37	33.4	21	13.2	47
New York	16.1	19	17.6	25	7.2	19	20.6	36	25.1	22	72.3	42	22.3	34	17.9	13	35.4	12	19.2	36
North Carolina	21.0	5	19.2	18	7.2	19	23.5	16	29.5	7	76.4	32	26.3	12	10.9	50	31.8	26	12.7	48
North Dakota	13.6	34	11.4	47	6.1	38	23.4	18	21.7	40	79.6	11	21.5	39	22.0	2	26.1	50	47.6	1
Ohio	13.7	30	13.4	41	7.7	12	23.0	22	25.4	21	79.5	13	26.6	8	15.9	28	33.4	21	23.5	25
Oklahoma	17.7	12	23.7	7	6.7	28	22.9	23	30.6	6	85.6	1	26.6	8	13.3	42	27.3	43	22.4	29
Oregon	16.1	19	20.5	14	6.2	33	20.3	37	17.9	51	73.7	38	22.4	32	16.3	26	32.0	25	12.1	50
Pennsylvania	15.9	21	12.6	45	8.1	9	23.9	12	24.4	27	74.6	37	24.5	17	16.9	21	29.5	35	31.4	11
Puerto Rico	33.0	1	7.8	54	10.5	1	22.0	28	46.8	1	85.5	2	13.2	52	10.6	51	64.6	2	7.4	54
Rhode Island	13.7	30	13.7	38	5.6	47	18.5	48	24.6	24	71.4	47	22.4	32	17.7	16	26.4	47	24.4	23
South Carolina	17.2	13	18.4	21	8.4	7	25.8	3	24.6	24	76.1	34	26.6	8	12.4	45	30.6	32	25.2	21
South Dakota	12.9	39	14.3	34	6.3	32	21.2	33	23.8	30	79.3	15	22.6	31	18.5	8	25.8	53	45.1	2
Tennessee	20.7	6	15.1	32	8.5	5	24.5	9	33.6	2	71.6	45	27.7	5	8.2	53	28.4	41	18.8	37
Texas	20.1	7	31.3	2	7.0	24	25.5	5	29.3	8	76.1	34	22.9	28	17.8	14	39.0	9	13.8	46
Utah	10.4	54	15.4	31	4.4	52	17.5	52	18.9	49	79.4	14	12.8	53	10.1	52	28.9	37	28.0	14
Vermont	10.9	51	13.6	39	5.9	41	18.9	46	18.3	50	70.9	48	21.1	43	16.5	25	26.4	47	23.5	25
Virgin Islands	16.2	18	34.5	1	9.1	3	24.9	8	30.7	5	64.3	54	9.4	54	11.7	48	67.8	1	22.6	28
Virginia	13.7	30	14.4	33	6.2	33	23.8	13	24.4	27	72.1	43	24.6	16	15.6	32	34.7	16	22.1	30
Washington	12.6	41	14.0	35	5.8	43	21.3	32	15.0	54	76.2	33	21.5	39	15.1	34	35.0	14	14.3	44
West Virginia	23.5	3	21.8	11	10.2	2	27.6	1	28.4	10	78.7	19	28.4	4	11.4	49	34.2	18	25.6	18
Wisconsin	12.0	46	13.0	43	5.1	50	21.6	30	20.0	44	76.5	31	23.3	24	24.9	1	26.0	52	33.7	7
Wyoming	12.2	44	20.1	15	5.6	47	19.5	41	20.4	43	77.9	23	23.7	21	18.1	12	29.4	36	41.8	3
<b>US Total</b>	<b>16.0</b>		<b>17.8</b>		<b>7.1</b>		<b>21.9</b>		<b>25.3</b>		<b>75.6</b>		<b>22.6</b>		<b>15.7</b>		<b>33.6</b>		<b>19.4</b>	

Source: Centers for Disease Control & Prevention - 2002 Behavioral Risk Factor Data; West Virginia Health Statistics Center, 2005.

a. 54 states/territories conducted the survey. States/territories with the same prevalence share the same rank.

## Appendix H

### Behavioral Risk Factor Prevalences in 50 States, District of Columbia, and Territories<sup>a</sup> United States, 2003

State	Fair or Poor Health		High Cholesterol		Diabetes Awareness		Hypertension Awareness		Obesity (BMI 30+)		No Leisure Exercise		Less Than 5 Per Day Fruits/Veg		Current Smoking		Binge Drinking		No Flu Shot Past 12 Mo., Ages 65+	
	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk
Alabama	20.3	5	36.0	4	8.7	9	33.1	3	28.4	1	29.9	7	77.4	27	25.3	13	12.1	47	29.8	29
Alaska	11.8	49	27.6	52	5.0	53	20.8	52	23.5	23	19.2	45	77.4	27	26.2	6	18.4	11	33.5	9
Arizona	15.6	23	34.6	13	6.3	37	22.7	46	20.1	43	21.2	38	77.1	30	20.8	38	16.6	26	31.1	19
Arkansas	19.7	7	34.8	11	7.4	22	30.5	4	25.2	6	29.1	9	79.2	16	24.8	17	12.5	46	29.0	33
California	15.1	26	32.7	31	7.2	26	23.4	40	23.2	24	22.3	32	73.1	43	16.8	51	15.9	31	27.5	36
Colorado	12.0	47	31.9	35	4.7	54	19.8	53	16.0	54	16.8	53	75.8	37	18.6	48	18.3	12	25.8	44
Connecticut	12.6	40	30.8	41	5.9	45	24.2	32	19.1	49	21.0	40	70.2	52	18.6	48	16.5	27	25.7	45
Delaware	14.2	30	34.7	12	7.7	20	27.7	14	24.0	15	26.5	16	78.0	20	21.9	31	18.6	9	30.0	28
D.C.	12.4	41	29.2	49	8.2	13	25.2	24	20.3	40	22.5	31	70.4	51	22.0	27	18.6	9	37.0	6
Florida	18.1	10	35.1	7	8.5	10	29.3	7	19.9	46	27.9	12	76.4	35	23.9	20	15.5	32	34.1	7
Georgia	16.3	21	33.2	26	7.8	18	28.0	12	25.2	6	24.5	23	77.0	31	22.8	23	13.0	45	33.0	10
Guam	18.2	9	28.1	50	10.3	3	22.1	49	21.9	30	30.2	6	70.5	50	34.0	1	18.7	8	40.3	3
Hawaii	12.2	45	27.0	54	7.6	21	23.2	42	16.4	53	18.3	50	72.4	46	17.2	50	13.3	43	23.6	51
Idaho	13.6	34	31.1	39	6.3	37	23.1	43	21.8	32	18.6	49	79.6	14	19.0	47	15.5	32	29.7	30
Illinois	15.0	27	33.6	20	7.3	25	24.1	33	23.7	20	25.7	20	76.9	32	23.4	22	17.3	20	37.8	5
Indiana	16.7	19	35.1	7	7.8	18	27.0	17	26.0	4	26.2	18	78.0	20	26.1	7	15.1	37	33.9	8
Iowa	11.7	50	31.7	36	6.7	34	25.1	25	23.9	17	22.7	29	82.9	4	21.7	32	19.4	4	22.5	52
Kansas	13.3	35	29.4	48	6.0	43	23.3	41	22.6	28	25.9	19	81.2	9	20.4	40	13.9	42	29.2	32
Kentucky	22.8	4	35.5	5	8.5	10	29.8	6	25.6	5	30.6	2	81.8	7	30.8	2	9.3	52	30.9	21
Louisiana	17.3	15	30.8	41	8.5	10	29.0	8	24.8	11	30.5	3	83.6	3	26.5	5	16.4	28	31.7	16
Maine	14.7	29	33.6	20	7.4	22	26.0	21	19.9	46	20.6	42	73.0	44	23.7	21	16.8	24	25.2	46
Maryland	12.2	45	33.9	17	7.0	31	25.0	26	21.9	30	21.3	37	71.1	48	20.1	41	15.0	39	31.6	17
Massachusetts	12.4	41	32.4	33	6.2	41	23.1	43	16.8	52	21.6	36	71.0	49	19.1	46	18.3	12	25.1	48
Michigan	15.2	24	38.2	1	7.9	17	26.8	18	25.2	6	21.8	34	79.9	12	26.1	7	19.1	5	32.5	12
Minnesota	11.2	52	30.8	41	5.5	50	22.2	48	23.0	25	15.0	54	75.8	37	21.1	36	19.7	3	19.7	54
Mississippi	23.1	3	33.1	27	11.0	1	33.4	2	28.1	2	30.3	5	82.1	6	25.6	9	11.4	48	31.0	20
Missouri	17.4	14	33.6	20	6.9	32	27.5	15	23.6	22	24.0	24	79.8	13	27.2	4	17.2	22	30.1	27
Montana	12.3	43	29.8	47	5.5	50	21.3	50	18.8	50	20.2	43	78.1	19	20.0	42	19.1	5	27.2	38
Nebraska	12.8	39	30.5	44	6.4	36	23.5	39	23.9	17	20.7	41	82.2	5	21.2	34	18.0	16	26.4	41
Nevada	17.5	13	36.8	3	6.3	37	23.6	38	21.2	36	24.7	22	79.6	14	25.2	14	17.9	18	40.0	4
New Hampshire	10.8	53	33.4	23	5.6	49	22.5	47	20.2	41	19.9	44	71.5	47	21.2	34	17.7	19	26.1	42
New Jersey	15.2	24	33.8	19	7.1	29	25.6	22	20.1	43	26.9	15	73.4	42	19.4	45	16.0	30	32.8	11
New Mexico	16.9	18	27.2	53	5.7	48	21.1	51	20.2	41	22.9	28	77.6	25	22.0	27	15.3	35	27.6	35
New York	17.2	17	34.9	9	7.4	22	25.3	23	20.9	37	27.1	14	74.2	40	21.6	33	16.9	23	32.0	14
North Carolina	18.9	8	34.0	16	8.1	14	28.6	11	24.0	15	25.0	21	76.9	32	24.8	17	8.6	53	31.2	18
North Dakota	13.2	36	32.6	32	6.2	41	24.0	34	23.7	20	23.7	25	78.5	17	20.5	39	21.4	2	27.0	39
Ohio	14.2	30	33.9	17	8.9	8	26.3	20	24.9	10	26.4	17	77.3	29	25.2	14	16.7	25	32.0	14
Oklahoma	17.8	12	32.0	34	7.2	26	28.0	12	24.4	14	30.4	4	84.6	2	25.1	16	13.3	43	24.2	49
Oregon	16.2	22	34.1	15	6.3	37	24.0	34	21.5	35	18.8	46	75.9	36	20.9	37	15.5	32	29.5	31
Pennsylvania	15.0	27	35.2	6	8.0	16	26.5	19	23.8	19	22.6	30	75.3	39	25.4	12	18.0	16	30.9	21
Puerto Rico	35.0	1	30.3	45	11.0	1	27.3	16	22.9	26	45.2	1	84.7	1	13.6	52	9.8	51	59.8	2
Rhode Island	14.2	30	33.1	27	6.8	33	28.9	9	18.4	51	23.3	26	72.9	45	22.4	25	18.2	15	23.8	50
South Carolina	16.7	19	33.4	23	9.3	7	28.8	10	24.5	13	23.3	26	77.7	24	25.5	11	14.4	40	30.7	25
South Dakota	13.0	37	31.2	38	7.1	29	24.8	27	22.9	26	21.7	35	81.0	10	22.7	24	19.0	7	22.1	53
Tennessee	18.1	10	30.1	46	9.4	6	30.3	5	25.0	9	29.8	8	77.8	23	25.6	9	6.6	54	30.9	21
Texas	20.2	6	34.3	14	8.1	14	24.6	29	24.6	12	27.6	13	77.5	26	22.1	26	16.3	29	32.3	13
Utah	11.3	51	27.8	51	5.5	50	18.8	54	20.8	39	17.3	52	80.5	11	11.9	53	10.2	50	25.2	46
Vermont	10.7	54	30.9	40	5.8	46	23.1	43	19.6	48	18.7	48	67.5	53	19.5	43	17.3	20	25.9	43
Virgin Islands	17.3	15	31.5	37	9.8	4	24.8	27	22.0	29	28.6	10	66.1	54	10.0	54	14.2	41	65.1	1
Virginia	12.9	38	32.9	29	7.2	26	24.4	30	21.7	33	22.1	33	74.2	40	22.0	27	15.1	37	30.4	26
Washington	13.8	33	33.3	25	6.6	35	23.8	36	21.7	33	17.7	51	76.7	34	19.5	43	15.2	36	26.6	40
West Virginia	25.3	2	38.1	2	9.8	4	33.6	1	27.7	3	28.0	11	81.3	8	27.3	3	11.1	49	30.9	21
Wisconsin	12.0	47	32.8	30	6.0	43	24.3	31	20.9	37	18.8	46	78.5	17	22.0	27	24.2	1	27.9	34
Wyoming	12.3	43	34.9	9	5.8	46	23.8	36	20.1	43	21.1	39	77.9	22	24.6	19	18.3	12	27.4	37
<b>US Total</b>	<b>16.2</b>		<b>33.6</b>		<b>7.5</b>		<b>25.8</b>		<b>22.8</b>		<b>24.6</b>		<b>76.5</b>		<b>22.2</b>		<b>15.8</b>		<b>30.8</b>	

Source: Centers for Disease Control & Prevention - 2003 Behavioral Risk Factor Data; West Virginia Health Statistics Center, 2005.

a. 54 states/territories conducted the survey. States/territories with the same prevalence share the same rank.

## Appendix I

### Behavioral Risk Factor Prevalences in 49 States, District of Columbia, and Territories<sup>a</sup> United States, 2004

State	Fair or Poor Health		No Health Insurance, Ages 18-64		No Leisure Exercise		Obesity (BMI 30+)		Current Smoking		Smokeless Tobacco Use		Binge Drinking		Diabetes		Current Asthma		No Flu Immun. Past 12 Mo., Ages 65+	
	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk
Alabama	20.2	6	19.7	17	29.6	6	28.8	2	24.9	8			12.7	41	8.1	10	8.6	18	33.7	15
Alaska	12.3	40	17.7	22	20.6	38	23.7	22	24.8	9			16.4	17	4.2	52	9.0	13	35.9	6
Arizona	14.9	27	21.6	13	24.2	21	21.2	41	18.5	45			15.5	24	6.6	30	7.2	43	33.6	16
Arkansas	19.9	7	22.4	11	26.5	10	26.1	6	25.6	6	6.5	3	11.2	46	7.1	25	7.4	38	30.8	32
California	17.5	15	20.1	16	22.7	27	22.2	34	14.8	49			14.7	28	7.1	25	7.7	32	29.0	35
Colorado	11.7	48	17.9	21	18.7	45	16.8	52	20.0	36			17.3	11	4.3	51	8.7	17	21.1	52
Connecticut	11.4	49	11.3	48	18.9	43	19.7	48	18.1	47			14.9	27	6.0	41	9.7	4	26.7	41
Delaware	13.7	31	10.5	50	21.8	32	21.1	42	24.4	11			17.4	10	7.0	27	10.0	3	30.5	33
D.C.	11.1	50	12.1	46	22.3	28	22.5	33	20.9	25			16.7	16	8.3	7	9.2	10	44.7	3
Florida	16.5	19	24.7	7	23.6	24	22.9	31	20.2	34			12.5	43	7.8	12	7.3	41	34.5	11
Georgia	15.4	26	19.3	19	25.8	12	24.7	15	20.0	38			12.1	45	7.3	21	7.4	38	35.5	8
Idaho	12.5	38	18.5	20	19.1	41	20.8	45	17.4	48			12.7	42	6.1	40	8.0	29	33.6	17
Illinois	15.5	25	16.6	29	24.9	15	23.0	30	22.2	19			17.5	9	6.0	41	8.4	24	34.5	12
Indiana	17.4	17	17.4	25	25.3	14	25.5	9	24.9	7			14.5	29	7.7	15	8.4	24	35.6	7
Iowa	12.4	39	12.9	45	21.3	36	23.5	23	20.8	27	3.5	9	19.0	4	6.4	36	6.6	49	25.8	44
Kansas	13.0	32	15.3	34	23.2	25	23.2	26	19.8	41			12.9	40	6.5	33	7.4	38	31.7	27
Kentucky	21.9	4	17.3	26	29.8	3	25.8	7	27.5	1	5.0	4	9.6	49	7.5	18	8.3	26	35.1	10
Louisiana	18.8	10	25.7	5	29.8	4	26.9	5	23.5	14	4.1	6	14.2	32	8.3	7	6.2	50	31.2	30
Maine	15.9	21	15.2	35	21.5	34	23.4	24	21.0	24			14.9	26	7.5	18	9.6	7	27.4	39
Maryland	11.8	47	13.3	44	21.8	31	23.9	20	19.5	42			12.9	39	7.2	23	7.8	31	35.4	9
Massachusetts	12.0	45	11.0	49	20.0	40	18.4	51	18.5	46			17.0	14	5.6	47	9.7	4	29.3	34
Michigan	14.2	30	14.3	40	22.1	29	25.4	10	23.3	15			16.1	20	7.7	15	8.3	26	32.8	22
Minnesota	10.0	52	9.2	51	15.9	52	22.6	32	20.7	28			19.8	3	5.0	50	7.5	36	21.6	51
Mississippi	23.0	3	23.8	8	31.3	2	29.5	1	24.5	10			10.4	47	9.6	3	7.1	44	33.0	20
Missouri	15.8	22	15.7	32	24.8	16	24.9	13	24.1	13			16.2	18	7.3	21	9.1	12	30.9	31
Montana	12.8	34	23.1	9	18.9	44	19.7	47	20.4	30			17.1	12	6.0	41	8.6	18	27.6	38
Nebraska	12.2	41	15.2	36	21.6	33	23.2	27	20.3	33	4.5	5	17.6	7	6.3	39	6.9	47	23.8	49
Nevada	18.1	12	25.4	6	24.2	20	21.1	43	23.2	16			18.0	6	6.4	36	7.1	44	40.8	4
New Hampshire	11.1	51	14.1	41	18.5	46	21.6	38	21.7	22	2.0	12	16.1	22	6.5	33	10.3	1	29.0	36
New Jersey	15.7	23	17.1	28	25.7	13	21.9	37	18.8	44	0.8	13	14.5	30	6.8	29	8.6	18	32.0	25
New Mexico	18.6	11	25.9	4	21.2	37	21.5	39	20.3	32			13.0	37	6.5	33	9.3	9	27.3	40
New York	17.5	16	17.2	27	26.5	9	22.1	36	19.9	39			15.3	25	7.5	18	8.9	15	34.0	13
North Carolina	18.0	13	21.8	12	24.7	17	24.2	19	23.1	17	4.1	7	9.6	50	8.4	5	7.5	36	32.8	23
North Dakota	12.2	43	16.0	30	21.3	35	24.6	16	19.9	40			20.5	2	5.9	45	7.7	32	25.7	46
Ohio	14.6	29	15.4	33	23.0	26	25.3	11	25.9	5	2.7	11	16.9	15	7.8	12	8.5	22	32.3	24
Oklahoma	19.7	8	26.0	3	27.8	8	24.9	14	26.1	4			13.0	38	8.0	11	8.3	26	24.8	47
Oregon	15.6	24	21.0	14	17.2	50	21.2	40	20.0	35			13.2	36	6.6	30	9.7	4	29.0	37
Pennsylvania	15.9	20	14.5	38	24.4	19	24.3	18	22.7	18			17.6	8	7.8	12	8.8	16	36.0	5
Puerto Rico	34.8	1	9.2	52	46.6	1	24.3	17	12.6	50			12.3	44	10.7	2	6.2	50	64.4	1
Rhode Island	14.8	28	14.4	39	24.2	22	19.0	49	21.3	23			18.3	5	7.2	23	9.6	7	26.5	42
South Carolina	17.7	14	19.7	18	23.8	23	25.1	12	24.3	12			13.5	35	8.3	7	7.6	35	33.8	14
South Dakota	12.6	36	13.5	43	19.0	42	23.8	21	20.3	31			17.0	13	6.6	30	6.7	48	23.0	50
Tennessee	19.4	9	13.7	42	29.7	5	27.2	4	26.2	3			8.3	52	8.4	5	9.0	13	33.5	18
Texas	20.4	5	30.7	2	26.1	11	25.8	8	20.5	29	4.0	8	15.7	23	7.7	15	7.1	44	32.8	21
Utah	12.6	37	17.7	23	16.9	51	20.4	46	10.5	51			9.3	51	5.1	49	8.0	29	24.5	48
Vermont	12.0	44	14.6	37	18.1	48	18.7	50	20.0	37			16.1	21	5.3	48	8.5	22	33.2	19
Virgin Islands	16.7	18	32.2	1	28.8	7	23.2	28	9.4	52	0.4	14	13.6	34	8.8	4	4.6	52	60.6	2
Virginia	12.7	35	15.9	31	21.9	30	23.1	29	20.8	26	3.3	10	13.8	33	7.0	27	7.3	41	31.3	29
Washington	13.0	33	17.5	24	17.3	49	22.2	35	19.2	43			14.2	31	6.4	36	9.2	10	31.8	26
West Virginia	23.5	2	22.7	10	24.5	18	27.6	3	26.9	2	8.1	2	9.7	48	10.9	1	10.1	2	31.5	28
Wisconsin	11.9	46	11.9	47	18.5	47	23.2	25	21.9	20			21.8	1	5.7	46	8.6	18	25.7	45
Wyoming	12.2	42	20.3	15	20.1	39	20.8	44	21.7	21	9.3	1	16.2	19	6.0	41	7.7	32	26.0	43
<b>US Total</b>	<b>16.4</b>		<b>18.7</b>		<b>24.0</b>		<b>23.5</b>		<b>20.7</b>		<b>N/A</b>		<b>14.8</b>		<b>7.2</b>		<b>8.1</b>		<b>32.2</b>	

Source: Centers for Disease Control & Prevention - 2004 Behavioral Risk Factor Data; West Virginia Health Statistics Center, 2006.

a. 52 states/territories conducted the survey. No data available for Hawaii. States/territories with the same prevalence share the same rank.

b. Influenza immunization was measured by questions about either a flu shot or a flu vaccine sprayed in the nose. Before 2004, this measure included only the flu shot question.

## Appendix J

### Behavioral Risk Factor Prevalences in 50 States, District of Columbia, and Territories<sup>a</sup> United States, 2005

State	Fair or Poor Health		No Health Insurance, Ages 18-64		No Leisure Exercise		Obesity (BMI 30+)		Current Smoking		History of Heart Attack, Angina, Stroke		Binge Drinking		Diabetes		Current Asthma		No Flu Immun. Past 12 Mo., Ages 65+	
	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk
Alabama	21.0	7	20.0	19	29.7	9	28.9	5	24.8	7	10.1	6	10.4	47	9.8	4	7.1	43	38.9	9
Alaska	12.8	42	18.5	8	21.4	43	27.4	8	24.9	6	5.4	51	17.5	7	4.4	53	7.8	29	38.9	9
Arizona	15.5	25	25.2	8	22.6	34	21.1	47	20.2	30	8.5	19	14.5	26	7.5	25	7.4	35	37.4	18
Arkansas	21.6	4	23.1	10	30.6	6	28.0	7	23.5	10	9.4	11	10.4	47	8.1	16	7.5	32	34.5	26
California	17.6	14	19.9	20	23.9	27	22.7	38	15.2	50	7.1	39	14.0	31	7.1	31	7.2	40	33.7	30
Colorado	12.7	44	18.4	9	17.3	52	17.8	53	19.8	36	5.2	52	16.2	14	4.8	52	8.2	22	25.3	51
Connecticut	12.2	46	10.6	49	21.2	45	20.1	51	16.5	49	6.9	42	14.8	22	6.5	41	8.0	25	28.7	44
Delaware	13.0	39	9.2	51	23.3	29	23.5	34	20.6	25	9.1	12	15.6	18	8.6	11	8.5	18	34.1	28
D.C.	12.5	45	11.2	48	22.5	35	21.7	42	20.0	32	6.5	48	16.8	9	7.1	31	9.2	8	45.3	4
Florida	17.7	13	25.4	5	26.9	15	22.8	37	21.6	19	10.4	5	14.1	30	8.8	10	6.8	47	44.2	5
Georgia	16.7	19	18.7	7	27.2	13	26.5	14	22.1	17	7.5	33	12.1	42	8.3	14	7.3	36	38.9	9
Hawaii	13.6	32	9.3	50	19.5	46	19.7	52	17.0	48	6.9	42	16.5	13	7.3	27	7.5	32	27.3	47
Idaho	14.9	27	22.3	12	21.6	41	24.5	25	17.9	45	8.4	22	13.3	36	6.8	36	7.3	36	35.8	24
Illinois	15.7	24	16.9	28	25.6	21	25.1	23	19.9	35	8.1	25	16.8	9	7.9	20	7.0	45	43.8	6
Indiana	16.7	19	18.2	10	26.9	15	27.2	10	27.3	2	8.7	16	14.3	28	8.3	14	8.2	22	36.0	23
Iowa	12.2	46	13.0	41	24.7	25	25.4	20	20.4	27	8.4	22	18.6	4	6.8	36	7.2	40	28.2	45
Kansas	13.1	38	15.6	32	24.4	26	23.9	30	17.8	46	7.9	29	12.4	40	6.9	34	6.9	46	33.8	29
Kentucky	23.7	2	20.5	18	31.5	5	28.6	6	28.7	1	11.0	3	10.4	47	8.9	8	8.8	15	37.5	17
Louisiana	21.2	6	25.4	5	33.4	2	30.8	2	22.6	13	9.8	9	14.0	31	9.2	6	5.9	52	37.4	18
Maine	14.7	29	14.9	35	22.3	39	22.7	38	20.8	23	8.7	16	14.0	31	7.5	25	10.2	3	32.3	35
Maryland	11.9	50	12.7	44	22.9	33	24.4	26	18.9	41	7.0	41	11.9	43	7.2	30	8.3	21	40.3	8
Massachusetts	13.2	36	11.8	47	23.3	29	20.7	49	18.1	43	7.2	37	15.7	17	6.4	44	9.6	6	30.0	41
Michigan	15.1	26	14.7	36	22.5	35	26.2	15	22.0	18	9.0	13	16.6	12	8.1	16	9.1	12	32.7	33
Minnesota	11.3	52	8.1	52	16.2	53	23.7	32	20.0	32	6.1	49	18.7	3	5.8	49	8.4	20	21.9	53
Mississippi	23.6	4	21.8	15	32.4	4	30.9	1	23.6	8	10.7	4	9.8	50	9.8	4	7.2	40	38.2	13
Missouri	17.6	14	15.5	33	25.4	24	26.9	12	23.4	11	9.7	10	14.7	23	7.7	22	9.0	13	38.1	15
Montana	14.4	31	25.6	4	22.4	38	21.3	44	19.2	40	7.1	39	16.8	9	5.7	50	7.9	28	30.2	40
Nebraska	13.3	34	16.5	29	23.8	28	26.0	16	21.3	21	7.2	37	17.3	8	7.3	27	6.7	49	27.1	48
Nevada	17.2	16	25.3	7	26.8	17	21.2	45	23.1	12	8.3	24	17.6	6	7.1	31	7.1	43	47.0	3
New Hampshire	11.1	53	12.4	45	21.6	41	23.1	36	20.4	27	8.1	25	14.7	23	6.5	41	10.3	2	29.6	43
New Jersey	16.6	21	17.2	11	29.2	10	22.1	41	18.0	44	7.8	30	13.2	37	7.7	22	7.5	32	36.1	22
New Mexico	17.9	12	25.8	3	23.3	29	21.7	42	21.5	20	6.9	42	10.6	45	7.3	27	8.9	14	32.0	37
New York	16.9	18	16.0	31	27.1	14	22.2	40	20.4	27	7.7	32	14.7	23	8.1	16	9.3	7	37.1	20
North Carolina	18.6	11	22.5	11	25.6	21	25.9	17	22.6	13	8.7	16	10.5	46	8.5	12	6.5	51	34.4	27
North Dakota	12.0	49	13.6	39	23.1	32	25.4	20	20.1	31	7.8	30	18.9	2	6.7	38	7.3	36	29.7	42
Ohio	14.8	28	15.1	34	25.6	21	24.3	28	22.3	16	8.1	25	15.2	19	7.7	22	8.0	25	35.2	25
Oklahoma	18.7	10	24.8	9	30.6	6	26.8	13	25.1	5	9.9	7	12.6	39	8.9	8	8.5	18	26.8	50
Oregon	16.1	22	20.9	17	18.6	49	23.8	31	18.5	42	7.4	34	13.9	34	6.7	38	10.1	4	31.0	38
Pennsylvania	14.6	30	12.8	42	25.8	20	25.3	22	23.6	8	8.8	14	16.0	15	8.1	16	8.1	24	40.5	7
Puerto Rico	34.1	1	8.0	53	49.0	1	23.7	32	13.1	51	11.5	2	15.2	19	12.5	1	8.8	15	67.8	1
Rhode Island	13.2	36	13.4	40	25.9	19	21.0	48	19.8	36	7.4	34	15.1	21	6.4	44	10.7	1	32.6	34
South Carolina	17.2	16	22.3	12	26.3	18	29.1	4	22.5	15	8.8	14	12.8	38	10.3	3	6.6	50	38.7	12
South Dakota	12.8	42	14.0	38	22.5	35	25.5	19	19.8	36	8.5	19	18.0	5	6.4	44	7.3	36	23.7	52
Tennessee	19.5	9	16.1	30	33.1	3	27.4	8	26.7	3	9.9	7	8.6	52	9.1	7	7.7	31	38.2	13
Texas	19.8	8	32.7	2	27.4	12	27.0	11	20.0	32	8.5	19	14.3	28	7.9	20	6.8	47	38.1	15
Utah	13.0	39	17.1	26	18.5	50	21.2	45	11.5	52	5.6	50	8.3	53	5.5	51	8.0	25	30.3	39
Vermont	11.5	51	14.2	37	19.2	47	20.2	50	19.3	39	7.4	34	15.8	16	6.0	48	9.8	5	33.6	31
Virgin Islands	16.1	22	33.1	1	30.0	8	25.6	18	8.1	53	4.2	53	11.3	44	8.4	13	4.4	53	62.5	2
Virginia	13.3	34	12.8	42	21.3	44	25.1	23	20.6	25	8.1	25	12.2	41	6.9	34	8.7	17	32.9	32
Washington	13.4	33	17.1	26	17.4	51	23.3	35	17.6	47	6.9	42	13.8	35	6.3	47	9.2	8	32.1	36
West Virginia	24.7	2	22.2	14	28.5	11	30.6	3	26.7	3	13.7	1	9.1	51	10.4	2	9.2	8	36.2	21
Wisconsin	12.1	48	12.2	46	18.7	48	24.4	26	20.7	24	6.9	42	22.1	1	6.6	40	9.2	8	28.1	46
Wyoming	13.0	39	21.0	16	22.0	40	24.2	29	21.3	21	6.8	47	14.4	27	6.5	41	7.8	29	26.9	49
<b>US Total</b>	<b>16.7</b>		<b>18.8</b>		<b>25.5</b>		<b>24.5</b>		<b>20.4</b>		<b>8.3</b>		<b>14.2</b>		<b>7.8</b>		<b>7.9</b>		<b>36.6</b>	

Source: Centers for Disease Control & Prevention - 2005 Behavioral Risk Factor Data; West Virginia Health Statistics Center, 2006.

a. 53 states/territories conducted the survey. States/territories with the same prevalence share the same rank.

b. Influenza immunization was measured by questions about either a flu shot or a flu vaccine sprayed in the nose. Before 2004, this measure included only the flu shot question.

## Appendix K

### Behavioral Risk Factor Prevalences in 50 States, District of Columbia, and Territories<sup>a</sup> United States, 2006

State	Fair or Poor Health		No Health Insurance, Ages 18-64		No Leisure Exercise		Obesity (BMI 30+)		Current Smoking		History of Heart Attack, Angina, Stroke		Binge Drinking		Diabetes		Current Asthma		
	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	
Alabama	21.3	4	19.1	19	29.2	5	30.5	3	23.2	9	12.5	2	10.9	47	10.0	4	8.9	14	
Alaska	12.5	41	19.0	20	21.4	36	26.2	18	24.0	6	6.5	48	16.7	13	5.9	47	9.5	10	
Arizona	16.3	19	23.3	9	22.3	29	22.9	38	18.2	37	8.7	19	15.2	28	8.5	12	8.9	14	
Arkansas	19.6	6	25.1	6	28.7	7	26.9	14	23.7	7	10.3	5	12.4	43	8.1	17	7.6	41	
California	19.0	7	20.4	13	23.0	22	23.3	34	14.9	50	7.5	34	15.4	26	8.2	15	7.6	41	
Colorado	11.6	45	19.6	16	17.4	48	18.2	51	17.9	41	5.3	51	16.3	18	5.3	51	7.9	36	
Connecticut	11.5	47	12.1	43	19.8	41	20.6	48	17.0	48	6.9	44	14.4	32	6.4	42	9.3	11	
Delaware	12.9	44	11.4	46	21.6	35	26.0	20	21.7	17	8.6	20	19.0	5	8.1	17	9.6	8	
D.C.	12.1	37	9.8	50	22.1	31	22.5	42	17.9	41	6.4	49	15.8	22	8.1	17	10.0	2	
Florida	16.8	15	25.5	5	25.1	14	23.1	36	21.0	21	9.9	9	13.7	37	8.5	12	7.2	46	
Georgia	14.8	23	17.9	23	24.7	15	27.1	12	19.9	28	8.1	24	12.0	44	9.1	9	8.0	35	
Hawaii	14.7	24	10.0	48	19.3	45	20.6	48	17.5	46	7.1	42	17.5	11	8.2	15	8.1	34	
Idaho	13.9	30	22.2	10	20.8	40	24.1	32	16.8	49	6.8	45	14.6	30	6.8	37	9.2	13	
Illinois	16.1	21	17.6	24	22.4	28	25.1	25	20.5	24	7.7	30	19.2	4	8.1	17	8.3	30	
Indiana	16.5	18	18.4	22	25.3	13	27.8	10	24.1	5	9.0	15	15.9	21	8.1	17	8.4	27	
Iowa	13.0	36	12.7	40	22.3	29	25.7	22	21.4	20	8.8	17	20.5	3	7.3	32	6.5	50	
Kansas	14.3	27	15.6	32	22.6	26	25.9	21	20.0	27	7.9	27	15.3	27	7.3	32	8.3	30	
Kentucky	23.1	1	20.0	14	30.4	3	28.0	9	28.5	1	11.8	3	8.6	50	9.9	6	8.2	33	
Louisiana	18.4	10	26.5	2	31.0	2	27.1	12	23.4	8	9.5	10	13.1	41	9.2	8	5.9	51	
Maine	13.7	32	12.4	42	20.9	39	23.1	36	20.9	22	7.9	27	16.2	19	6.9	36	9.7	6	
Maryland	12.6	40	11.8	45	23.0	22	24.9	28	17.7	45	8.2	23	13.8	36	7.9	23	8.9	14	
Massachusetts	12.4	42	10.0	48	21.1	37	20.3	50	17.8	44	7.2	41	17.7	8	6.4	42	9.9	3	
Michigan	15.2	22	15.3	34	22.8	25	28.8	5	22.4	12	9.4	12	17.5	11	9.0	11	9.6	8	
Minnesota	10.8	51	9.7	51	14.2	51	24.7	30	18.3	36	6.7	47	17.6	10	5.7	49	7.8	37	
Mississippi	22.5	2	24.8	8	31.1	1	31.4	1	25.1	3	10.2	7	9.3	48	10.9	2	6.9	48	
Missouri	16.8	15	15.7	31	23.2	21	27.2	11	23.2	9	10.2	7	16.4	17	7.4	27	8.6	22	
Montana	13.2	34	20.0	14	19.4	43	21.2	46	18.9	32	7.5	34	15.8	22	6.4	42	8.3	30	
Nebraska	12.9	37	17.0	26	21.0	38	26.9	14	18.7	33	8.0	26	17.9	7	7.4	27	7.5	44	
Nevada	18.5	9	25.9	3	27.1	9	25.0	27	22.2	15	8.9	16	15.5	25	7.5	25	7.7	38	
New Hampshire	11.1	49	13.3	38	19.6	42	22.4	43	18.7	33	7.5	34	15.0	29	7.4	27	9.7	6	
New Jersey	16.2	20	16.8	28	27.0	10	22.6	41	18.0	39	8.1	24	14.2	33	7.5	25	7.6	41	
New Mexico	17.8	12	25.6	4	22.6	26	22.9	38	20.1	26	7.3	39	13.0	42	7.3	32	8.5	24	
New York	16.6	17	15.9	30	26.0	11	22.9	38	18.2	37	7.6	33	15.7	24	7.6	24	8.5	24	
North Carolina	18.1	11	20.9	12	23.8	20	26.6	16	22.1	16	9.3	14	11.2	45	9.1	9	6.8	49	
North Dakota	11.5	47	13.9	36	22.0	32	25.4	23	19.5	29	7.0	43	21.0	2	6.7	38	7.1	47	
Ohio	14.7	24	14.6	35	24.5	17	28.4	8	22.4	12	9.5	10	16.2	19	6.7	38	9.8	4	
Oklahoma	20.2	5	25.0	7	29.8	4	28.8	5	25.1	3	11.3	4	13.4	38	10.0	4	8.9	14	
Oregon	14.2	28	19.5	18	16.4	50	24.8	29	18.5	35	7.4	37	14.0	35	6.7	38	9.8	4	
Pennsylvania	14.7	24	12.7	40	22.9	24	24.0	33	21.5	19	9.4	12	16.6	15	8.5	12	8.8	19	
Puerto Rico																			
Rhode Island	14.1	29	13.4	37	24.7	15	21.4	45	19.2	31	7.8	29	17.7	8	7.4	27	10.5	1	
South Carolina	17.0	14	19.6	16	24.3	18	29.4	4	22.3	14	8.8	17	13.4	38	9.6	7	7.7	38	
South Dakota	11.6	45	16.4	29	24.0	19	25.4	23	20.3	25	8.5	21	18.1	6	6.5	41	7.7	38	
Tennessee	18.8	8	15.5	33	28.8	6	28.8	5	22.6	11	10.3	5	8.5	51	10.7	3	8.5	24	
Texas	17.4	13	29.0	1	28.4	8	26.1	19	17.9	41	8.3	22	14.6	30	8.0	22	7.3	45	
Utah	12.9	37	17.1	25	19.4	43	21.9	44	9.8	51	5.7	50	9.1	49	5.7	49	8.4	27	
Vermont	10.9	50	13.3	38	17.9	47	21.2	46	18.0	39	7.4	37	16.7	13	5.9	47	9.3	11	
Virgin Islands																			
Virginia	13.1	35	12.0	44	21.7	34	25.1	25	19.3	30	7.7	30	13.4	38	7.4	27	8.4	27	
Washington	13.5	33	16.9	27	17.3	49	24.2	31	17.1	47	6.8	45	14.2	33	7.1	35	8.9	14	
West Virginia	22.5	2	18.9	21	25.6	12	31.0	2	25.7	2	14.0	1	11.1	46	12.1	1	8.6	22	
Wisconsin	12.2	43	11.3	47	19.3	45	26.6	16	20.8	23	7.3	39	24.2	1	6.2	46	8.8	19	
Wyoming	13.9	30	21.0	11	21.9	33	23.3	34	21.6	18	7.7	30	16.6	15	6.4	42	8.7	21	
<b>US Total</b>	<b>16.2</b>		<b>18.6</b>		<b>24.0</b>		<b>25.1</b>		<b>19.7</b>		<b>na</b>		<b>15.0</b>		<b>8.0</b>		<b>8.2</b>		

Source: Centers for Disease Control & Prevention - 2006 Behavioral Risk Factor Data; West Virginia Health Statistics Center, 2008.

a. 51 states/territories conducted the survey.

## Appendix L

### Behavioral Risk Factor Prevalences in 50 States, District of Columbia, and Territories <sup>a</sup> United States, 2007

State	Fair or Poor Health		No Health Insurance, Ages 18-64		No Leisure Exercise		Obesity (BMI 30+)		Current Smoking		History of Heart Attack, Angina, Stroke		Binge Drinking		Diabetes		Current Asthma		No Flu Immun. Past 12 Mo., Ages 65+	
	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk
Alabama	21.4	4	17.5	24	29.8	8	30.9	2	22.5	12	10.3	5	11.0	48	10.3	6	8.8	18	30.7	11
Alaska	13.8	35	16.6	28	20.0	42	28.2	13	22.2	14	5.0	53	19.2	6	6.1	51	7.8	38	35.6	5
Arizona	17.3	15	21.9	12	22.4	31	25.8	31	19.8	27	8.7	19	15.0	33	8.4	24	8.6	23	31.0	10
Arkansas	20.1	8	24.5	4	28.1	12	29.3	6	22.4	13	9.8	7	10.4	50	9.2	13	7.0	46	29.4	21
California	17.9	13	18.4	22	23.1	25	23.3	45	14.3	51	6.2	49	16.9	19	7.6	35	7.5	44	30.7	12
Colorado	13.2	39	20.1	15	17.3	52	19.3	54	18.7	37	5.5	51	17.3	15	5.3	54	7.8	39	23.5	45
Connecticut	12.2	50	11.0	48	19.7	43	21.7	51	15.4	50	6.5	47	17.8	13	7.3	38	9.3	12	25.3	40
Delaware	13.0	42	9.1	52	22.1	33	28.2	14	18.9	35	9.2	15	18.6	9	8.7	21	7.8	36	26.1	37
D.C.	13.5	37	9.5	51	21.3	38	22.1	48	17.2	41	6.3	48	16.0	24	8.1	27	9.4	8	39.4	3
Florida	16.6	21	23.3	8	25.4	15	24.1	44	19.3	33	9.3	12	14.2	37	8.7	20	6.2	51	35.1	6
Georgia	15.8	25	19.5	16	24.7	17	28.7	10	19.3	30	8.6	20	12.6	42	10.1	9	7.6	42	32.1	8
Guam	20.9	6	19.0	19	31.6	3	24.6	41	30.9	1	5.6	50	19.5	5	9.2	14	5.5	53	30.3	14
Hawaii	14.7	30	7.1	54	18.0	50	21.7	52	17.0	45	6.7	43	18.6	8	7.7	34	8.0	34	20.9	52
Idaho	14.9	29	22.3	10	19.5	45	25.1	38	19.1	34	7.7	31	14.7	34	7.9	31	8.7	20	30.7	13
Illinois	17.3	17	17.5	23	23.0	28	25.6	32	20.1	23	7.4	35	19.5	4	8.8	18	8.3	29	31.4	9
Indiana	15.8	24	16.6	27	24.2	22	27.4	21	24.1	7	9.6	8	15.6	29	8.4	23	8.8	17	28.1	28
Iowa	12.4	49	12.8	45	22.1	34	27.7	20	19.8	25	8.0	26	19.9	3	6.8	46	7.0	47	25.2	41
Kansas	13.0	41	14.3	37	23.0	26	27.7	19	18.8	39	9.7	28	14.6	35	7.3	37	8.4	26	26.3	36
Kentucky	23.1	2	18.8	21	31.3	6	28.7	9	28.2	2	11.1	2	8.2	54	9.9	10	9.0	15	26.5	35
Louisiana	19.0	11	23.8	7	30.0	7	30.7	4	22.6	11	9.4	10	13.4	40	10.1	8	6.3	50	30.3	15
Maine	13.5	36	14.1	38	20.3	41	25.2	36	20.2	22	8.8	18	15.8	26	7.8	32	10.3	1	22.8	48
Maryland	14.1	34	14.8	34	23.0	27	26.3	27	17.0	43	7.2	38	12.6	43	8.4	25	8.3	28	28.2	27
Massachusetts	12.6	45	7.2	53	21.1	39	21.7	50	16.4	49	7.2	39	17.6	14	7.4	36	9.8	4	22.0	51
Michigan	14.4	32	14.4	35	20.8	40	28.2	15	21.1	18	9.2	14	18.5	10	8.8	19	9.5	7	29.1	25
Minnesota	11.1	53	9.9	50	16.7	54	26.0	29	16.5	48	6.6	45	14.3	36	5.7	53	7.7	40	20.4	53
Mississippi	21.4	5	22.9	9	31.8	2	32.6	1	23.9	8	9.1	17	11.3	47	11.1	3	6.6	49	30.1	16
Missouri	17.1	19	16.1	31	25.5	14	28.2	16	24.5	5	9.6	9	16.2	23	8.0	29	8.5	25	30.0	18
Montana	14.4	31	20.4	14	19.6	44	22.6	46	19.5	29	7.7	32	17.1	18	6.6	48	9.3	11	27.2	32
Nebraska	12.1	51	14.4	36	22.2	32	26.5	25	19.9	24	7.2	37	18.0	11	7.1	41	8.1	33	23.1	47
Nevada	17.3	16	24.3	5	24.4	18	24.6	40	21.4	17	8.0	27	16.9	20	8.0	28	6.9	48	38.0	4
New Hampshire	12.7	44	13.9	41	19.1	48	25.1	37	19.3	31	7.8	29	15.5	30	7.2	40	10.2	2	22.3	50
New Jersey	17.1	20	15.9	33	26.1	13	24.1	43	17.1	42	8.4	21	13.6	39	9.2	15	8.3	27	29.3	22
New Mexico	17.5	14	26.4	3	21.7	36	25.1	39	20.8	21	7.4	34	12.3	46	7.8	33	8.7	21	30.0	17
New York	17.2	18	16.2	30	24.4	19	25.5	33	18.9	36	7.2	36	15.2	32	8.2	26	8.7	19	29.2	24
North Carolina	18.7	12	22.1	11	24.3	21	28.7	11	22.9	10	9.1	16	12.3	45	9.1	16	7.8	37	28.6	26
North Dakota	12.5	47	14.1	39	22.5	30	27.0	23	20.9	20	7.5	33	23.2	2	6.3	50	7.7	41	27.6	30
Ohio	15.8	23	14.0	40	24.3	20	28.1	17	23.0	9	9.4	11	17.1	17	9.5	12	8.9	16	27.3	31
Oklahoma	19.2	10	24.1	6	29.6	9	28.8	8	25.8	4	10.5	3	12.5	44	10.2	7	8.6	24	23.8	43
Oregon	13.1	40	19.5	17	17.3	53	26.3	26	16.9	46	6.6	46	15.6	28	6.9	45	9.7	5	26.8	34
Pennsylvania	15.2	26	13.0	44	23.4	24	27.8	18	20.9	19	9.3	13	16.2	22	8.7	22	9.3	9	27.0	33
Puerto Rico	32.2	1	10.0	49	43.7	1	26.6	24	12.2	52	10.1	6	10.8	49	12.5	1	6.1	52	67.2	1
Rhode Island	15.1	28	12.6	46	23.4	23	21.7	53	17.0	44	8.0	25	18.6	7	7.2	39	9.8	3	19.8	54
South Carolina	16.3	22	19.3	18	24.8	16	29.0	7	21.9	16	8.3	23	13.9	38	9.6	11	7.5	43	29.6	19
South Dakota	12.5	48	16.1	32	22.6	29	27.2	22	19.8	26	8.0	24	17.3	16	6.7	47	7.1	45	22.4	49
Tennessee	20.5	7	17.2	26	31.5	4	30.7	3	24.2	6	10.4	4	9.1	53	11.9	2	8.7	22	29.6	20
Texas	19.6	9	29.3	2	28.3	10	28.6	12	19.3	32	8.3	22	15.3	31	10.3	5	8.2	30	32.9	7
Utah	10.9	54	17.3	25	19.5	46	22.4	47	11.7	53	5.3	52	9.8	51	5.8	52	8.1	31	23.7	44
Vermont	11.6	52	13.2	43	18.3	49	21.9	49	17.6	40	7.1	40	17.9	12	7.0	44	9.6	6	25.3	39
Virgin Islands	15.2	27	31.5	1	30.4	5	26.3	28	8.7	54	3.6	54	13.0	41	8.8	17	5.4	54	56.5	2
Virginia	14.2	33	13.6	42	21.6	37	25.2	35	18.5	38	7.7	30	15.9	25	7.9	30	8.0	35	24.4	42
Washington	13.3	38	16.3	29	17.6	51	25.9	30	16.8	47	6.7	44	15.8	27	7.1	42	9.3	10	27.9	29
West Virginia	21.6	3	20.6	13	28.2	11	30.3	5	26.9	3	12.6	1	9.8	52	10.8	4	9.0	14	29.3	23
Wisconsin	12.5	46	11.3	47	19.4	47	25.3	34	19.6	28	6.8	42	23.4	1	6.5	49	9.2	13	25.9	38
Wyoming	12.7	43	18.8	20	21.7	35	24.5	42	22.1	15	7.0	41	16.8	21	7.0	43	8.1	32	23.5	46
<b>US Total</b>	<b>16.7</b>		<b>18.0</b>		<b>24.2</b>		<b>26.2</b>		<b>19.4</b>		<b>8.1</b>		<b>15.4</b>		<b>8.6</b>		<b>8.2</b>		<b>29.6</b>	

Source: Centers for Disease Control & Prevention - 2007 Behavioral Risk Factor Data; West Virginia Health Statistics Center, 2009.

a. 54 states/territories conducted the survey.

## Appendix M

### Behavioral Risk Factor Prevalences in 50 States, District of Columbia, and Territories<sup>a</sup> United States, 2008

State	Fair or Poor Health		No Health Insurance, Ages 18-64		No Leisure Exercise		Obesity (BMI 30+)		Current Smoking		History of Heart Attack, Angina, Stroke		Binge Drinking		Diabetes		Current Asthma		No Flu Immun. Past 12 Mo., Ages 65+	
	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk	%	Rnk
Alabama	21.2	3	19.3	19	29.5	9	32.2	2	22.1	11	11.3	2	12.0	47	11.2	4	7.8	43	31.1	15
Alaska	14.3	30	18.8	21	24.1	33	27.1	22	21.5	12	5.9	51	15.9	23	6.7	48	9.6	15	31.1	16
Arizona	16.0	21	21.6	12	23.2	38	25.6	36	15.9	46	8.3	22	15.6	27	7.8	35	9.8	6	28.5	33
Arkansas	19.3	7	22.2	9	29.7	8	29.5	8	22.3	9	10.3	8	12.6	43	9.5	16	8.3	38	29.1	26
California	18.6	11	20.2	16	23.3	37	24.3	44	14.0	51	6.3	50	15.6	26	8.5	23	8.4	36	29.7	22
Colorado	13.3	38	18.8	22	18.9	53	19.1	54	17.6	32	5.4	53	16.0	22	6.0	53	8.1	39	22.1	53
Connecticut	11.1	53	10.0	49	22.4	42	21.4	53	15.9	45	6.6	47	16.6	19	6.8	47	8.7	27	25.3	46
Delaware	13.1	40	7.6	53	24.1	32	27.8	19	17.8	31	8.8	18	18.0	10	8.2	28	9.6	11	30.2	19
D.C.	13.8	33	10.2	48	21.1	46	22.3	50	16.2	43	5.8	52	17.9	9	8.0	31	9.6	14	38.3	4
Florida	15.7	23	21.8	10	25.9	22	25.2	38	17.5	35	10.2	9	13.0	40	9.5	15	6.6	51	36.3	6
Georgia	16.4	18	18.3	24	23.1	40	27.8	18	19.5	21	7.7	32	14.0	34	9.9	11	8.5	33	34.7	7
Guam	18.4	12	26.7	3	26.3	20	27.0	23	27.4	1	6.6	46	20.2	4	7.9	33	4.5	54	33.3	9
Hawaii	14.8	28	7.6	52	19.6	49	23.1	48	15.4	48	6.6	45	17.6	15	8.2	29	9.6	10	22.7	52
Idaho	14.0	32	21.7	11	21.1	47	25.1	40	16.9	38	7.6	35	13.1	39	7.0	44	8.8	25	31.4	13
Illinois	15.2	27	17.1	28	28.0	12	26.9	25	21.3	14	7.9	26	19.4	6	8.3	26	7.9	42	36.5	5
Indiana	16.7	17	17.9	25	27.7	13	27.0	24	26.0	3	8.9	17	16.1	21	9.5	14	9.2	21	31.3	14
Iowa	12.5	44	10.7	47	25.0	27	26.7	26	18.8	24	8.4	21	20.2	3	7.0	43	7.7	45	23.5	50
Kansas	13.6	34	13.9	38	25.5	25	28.1	17	17.9	30	7.3	42	13.8	35	8.1	30	8.7	28	27.9	35
Kentucky	20.3	6	17.2	27	30.5	6	30.3	7	25.2	4	10.7	5	11.3	49	9.9	12	9.7	7	26.3	44
Louisiana	18.3	13	22.4	8	29.8	7	29.0	13	20.5	16	10.4	7	13.5	38	10.7	5	8.0	40	31.5	12
Maine	13.0	42	13.6	41	22.8	41	25.8	32	18.2	28	9.0	14	15.8	25	8.3	27	10.3	3	25.2	47
Maryland	12.5	45	14.1	36	24.0	34	26.7	27	14.9	49	7.7	30	13.8	36	8.6	21	9.4	16	30.2	20
Massachusetts	12.3	47	5.0	54	22.1	43	21.5	52	16.1	44	6.9	44	17.7	14	7.2	42	9.6	12	27.7	36
Michigan	14.4	29	13.8	40	25.1	26	29.5	9	20.4	17	8.9	15	17.7	12	9.1	19	9.9	5	29.9	21
Minnesota	11.4	52	9.5	50	18.1	54	25.1	39	17.5	33	7.6	33	19.8	5	5.9	54	7.8	44	23.5	51
Mississippi	21.2	4	23.1	6	32.5	3	33.3	1	22.7	8	9.6	11	10.8	51	11.3	3	7.0	50	32.2	10
Missouri	16.9	16	17.4	26	27.6	15	29.1	12	24.9	5	9.8	10	15.3	29	9.1	18	8.4	34	28.7	30
Montana	14.0	31	20.9	15	23.1	39	24.3	45	18.5	25	8.0	23	17.7	13	6.5	50	9.6	8	30.6	17
Nebraska	11.8	49	14.7	33	24.6	28	27.2	21	18.4	27	7.5	40	19.1	7	7.8	36	7.1	49	24.0	48
Nevada	18.7	10	24.8	4	27.6	14	25.6	35	22.2	10	7.7	31	18.8	8	8.6	22	8.5	31	42.5	3
New Hampshire	11.4	51	11.9	46	21.5	45	24.9	43	17.1	37	7.5	37	16.5	20	7.2	40	10.4	2	21.7	54
New Jersey	15.6	25	16.3	30	26.9	17	23.6	46	14.8	50	7.8	27	14.0	33	8.4	25	8.6	30	33.8	8
New Mexico	18.2	14	23.8	5	23.9	35	25.7	34	19.4	22	7.5	41	11.4	48	7.8	34	8.5	32	30.2	18
New York	15.5	26	14.4	35	26.4	19	25.1	41	16.8	39	7.5	38	14.7	32	8.4	24	8.8	26	28.6	31
North Carolina	17.5	15	20.9	13	24.6	29	29.5	10	20.9	15	8.5	20	12.9	41	9.3	17	7.6	46	26.9	38
North Dakota	13.4	36	13.9	37	25.6	24	27.8	20	18.1	29	7.5	39	21.6	2	7.6	37	7.9	41	26.5	42
Ohio	15.6	24	14.7	34	26.0	21	29.2	11	21.1	18	9.3	12	15.8	24	9.9	10	9.6	13	29.6	23
Oklahoma	18.7	9	22.8	7	31.5	4	31.0	5	24.7	6	10.4	6	12.2	46	10.1	8	8.9	24	26.7	40
Oregon	13.2	39	19.0	20	19.0	52	25.0	42	16.3	42	7.3	43	12.8	42	6.9	46	8.6	29	29.6	24
Pennsylvania	16.3	19	13.9	39	25.7	23	28.4	15	21.3	13	9.1	13	16.7	18	8.8	20	9.3	19	28.2	34
Puerto Rico	32.2	1	9.4	51	47.3	1	26.2	29	11.6	52	10.8	4	10.9	50	12.4	1	5.2	52	69.4	1
Rhode Island	13.4	35	12.8	42	24.2	31	22.1	51	17.3	36	7.8	29	17.5	16	7.4	38	10.6	1	26.0	45
South Carolina	16.2	20	20.9	14	27.2	16	30.6	6	20.0	19	8.9	16	12.3	44	10.1	7	8.3	37	31.8	11
South Dakota	12.1	48	15.0	32	26.9	18	28.1	16	17.5	34	8.5	19	17.8	11	6.6	49	7.2	48	23.6	49
Tennessee	20.5	5	19.5	18	28.9	10	31.2	4	23.1	7	10.8	3	10.5	52	10.4	6	9.0	23	29.0	27
Texas	19.0	8	29.6	2	28.5	11	28.9	14	18.5	26	7.9	24	14.7	31	9.7	13	7.3	47	28.7	29
Utah	10.7	54	16.4	29	19.8	48	23.1	49	9.3	53	6.3	49	8.2	54	6.1	52	8.4	35	26.6	41
Vermont	11.5	50	12.5	43	19.4	50	23.2	47	16.8	40	7.5	36	17.4	17	6.4	51	9.9	4	26.4	43
Virgin Islands	15.7	22	30.8	1	33.2	2	26.5	28	6.4	54	4.5	54	12.2	45	10.0	9	4.5	53	58.8	2
Virginia	12.7	43	12.3	44	23.6	36	25.8	33	16.4	41	7.9	25	13.7	37	7.9	32	9.2	20	26.9	39
Washington	13.4	37	15.5	31	19.3	51	26.0	31	15.7	47	6.6	48	15.1	30	6.9	45	9.3	18	28.6	32
West Virginia	24.1	2	19.8	17	31.1	5	31.9	3	26.5	2	14.2	1	8.8	53	11.9	2	9.6	9	28.8	28
Wisconsin	12.3	46	12.0	45	22.0	44	26.1	30	19.9	20	7.8	28	22.8	1	7.2	41	9.4	17	26.9	37
Wyoming	13.1	41	18.4	23	24.4	30	25.2	37	19.3	23	7.6	34	15.4	28	7.4	39	9.2	22	29.2	25
<b>US Total</b>	<b>16.3</b>		<b>17.9</b>		<b>25.5</b>		<b>26.7</b>		<b>18.4</b>		<b>8.2</b>		<b>15.1</b>		<b>8.8</b>		<b>8.5</b>		<b>30.4</b>	

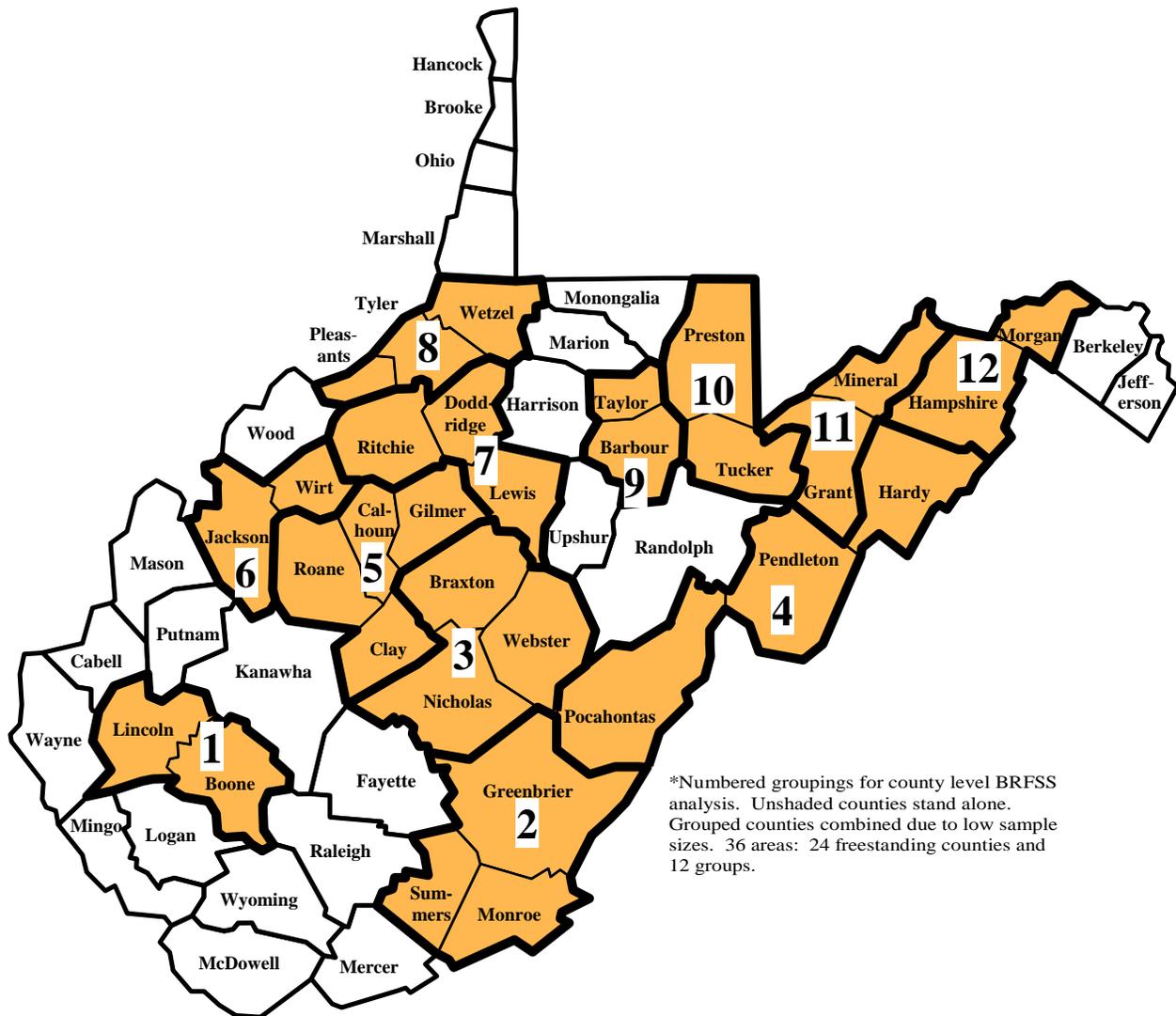
Source: Centers for Disease Control & Prevention - 2008 Behavioral Risk Factor Data; West Virginia Health Statistics Center, 2009.

a. 54 states/territories conducted the survey.

## Appendix N

### Groupings for County Level Analysis for Years 2004-2008

### West Virginia Behavioral Risk Factor Surveillance System



Group	Counties
1	Boone and Lincoln
2	Greenbrier, Summers, and Monroe
3	Braxton, Nicholas, and Webster
4	Hardy, Pendleton, and Pocahontas
5	Calhoun, Clay, Gilmer, and Roane
6	Jackson and Wirt
7	Doddridge, Lewis, and Ritchie
8	Pleasants, Tyler, and Wetzel
9	Barbour and Taylor
10	Preston and Tucker
11	Grant and Mineral
12	Hampshire and Morgan

## Appendix O

### 2004-2008 WV Behavioral Risk Factors and Health Conditions by County

County	Fair or Poor Health			No Health Insurance Ages 18-64			No Leisure Exercise			Obesity			Cigarette Smoking			Smokeless Tobacco Use <sup>a</sup>			Binge Drinking			
	%	Rank	Sig.*	%	Rank	Sig.*	%	Rank	Sig.*	%	Rank	Sig.*	%	Rank	Sig.*	%	Rank	Sig.*	%	Rank	Sig.*	
<b>Individual Counties</b>																						
Berkeley	16.3	33	L/I	16.9	31	I/I	27.1	19	I/h	30.2	19	I/h	29.5	12	h/H	4.4	32	L/h	12.4	7	h/I	
Brooke	18.7	29	I/h	20.6	25	I/h	32.3	7	h/H	34.4	8	h/H	26.3	19	I/h	8.1	21	I/h	15.9	1	h/h	
Cabell	21.2	20	I/H	20.8	23	I/h	25.0	27	I/h	28.4	25	I/h	24.5	27	I/H	3.9	34	L/h	9.9	15	h/h	
Fayette	23.6	16	h/H	24.7	9	h/h	29.1	12	h/h	30.9	15	h/h	27.2	15	h/H	11.3	9	h/H	14.0	3	h/I	
Hancock	19.3	23	I/h	11.9	36	L/L	28.6	13	h/h	32.1	13	h/h	23.1	31	I/h	3.8	35	L/h	13.6	4	h/I	
Harrison	18.4	31	L/h	22.2	19	h/h	25.6	25	I/h	28.9	24	I/h	24.3	29	I/H	9.4	17	h/H	8.0	26	I/L	
Jefferson	15.8	34	L/I	12.6	35	L/L	22.2	33	I/I	26.3	34	I/h	26.7	17	h/H	3.2	36	L/I	12.7	6	h/I	
Kanawha	20.8	22	I/H	15.9	32	L/I	27.2	18	I/H	28.3	26	I/H	24.5	26	I/H	5.9	30	L/H	11.5	11	h/L	
Logan	36.0	4	H/H	22.8	17	h/h	33.3	4	h/H	40.3	1	H/H	32.9	5	h/H	10.3	13	h/H	10.4	14	h/I	
Marion	19.3	24	I/h	22.0	20	h/h	28.4	14	h/h	27.2	32	I/h	25.2	22	I/H	7.0	28	I/H	9.7	16	h/L	
Marshall	18.9	26	I/h	19.5	26	I/h	24.7	28	I/h	27.8	29	I/h	24.9	25	I/h	7.0	27	I/h	13.2	5	h/I	
Mason	26.4	12	h/H	26.1	6	h/h	32.6	6	h/H	35.9	6	h/H	36.4	2	H/H	9.4	16	h/H	4.7	35	L/L	
McDowell	40.0	1	H/H	25.0	8	h/h	44.0	1	H/H	36.1	5	h/H	34.3	4	h/H	11.9	7	h/H	5.5	32	I/L	
Mercer	28.8	8	H/H	24.3	12	h/h	28.0	17	h/h	25.6	35	I/h	29.6	11	h/H	7.4	24	I/H	4.9	34	L/L	
Mingo	37.4	3	H/H	19.5	27	I/h	40.5	3	H/H	37.0	4	h/H	35.8	3	H/H	5.3	31	I/h	6.9	27	I/L	
Monongalia	14.8	36	L/I	24.2	13	h/h	15.0	36	L/L	27.9	28	I/h	22.8	32	I/h	7.3	25	I/H	14.9	2	H/I	
Ohio	15.2	35	L/I	21.6	22	h/h	24.4	31	I/h	26.4	33	I/h	28.4	13	h/H	3.9	33	L/h	11.5	9	h/I	
Putnam	17.1	32	L/h	14.3	33	L/I	21.2	34	L/I	27.4	31	I/h	21.3	35	L/h	7.4	23	I/H	9.7	17	h/L	
Raleigh	29.3	7	H/H	19.1	28	I/h	26.0	22	I/h	28.0	27	I/h	24.3	30	I/H	11.1	10	h/H	5.8	31	L/L	
Randolph	23.7	15	h/H	25.3	7	h/h	27.0	20	I/h	22.7	36	L/I	27.7	14	h/H	14.6	3	H/H	8.2	25	I/L	
Upshur	22.0	17	I/h	13.1	34	L/I	22.2	32	I/I	34.6	7	h/H	25.0	24	I/h	10.5	12	h/H	4.6	36	L/L	
Wayne	30.1	6	H/H	22.9	16	h/h	28.4	15	h/h	37.4	3	H/H	32.3	7	h/H	7.6	22	I/H	8.6	23	I/L	
Wood	18.5	30	L/h	23.0	15	h/h	25.5	26	I/h	29.6	22	I/H	27.2	16	h/H	6.2	29	I/H	10.4	13	h/L	
Wyoming	38.8	2	H/H	33.9	1	H/H	41.1	2	H/H	32.8	11	h/h	42.5	1	H/H	15.7	2	H/H	5.3	33	I/L	
<b>Grouped Counties<sup>d</sup></b>																						
Barbour,Taylor	27.9	10	h/H	29.6	4	H/H	30.7	8	h/H	30.3	18	I/h	25.4	21	I/h	11.7	8	h/H	6.8	29	I/L	
Boone, Lincoln	31.2	5	H/H	22.0	21	h/h	30.3	9	h/H	37.4	2	H/H	31.4	8	h/H	8.5	20	h/H	8.4	24	I/L	
Braxton, Nicholas, Webster	28.1	9	H/H	29.8	3	H/H	28.4	16	h/h	31.0	14	h/H	30.5	9	h/H	13.0	5	H/H	6.9	28	I/L	
Calhoun, Clay, Gilmer, Roane	26.2	13	h/H	30.1	2	H/H	33.2	5	h/H	32.8	10	h/H	32.8	6	h/H	18.2	1	H/H	8.9	21	I/L	
Doddridge, Lewis, Ritchie	21.4	18	I/H	23.2	14	h/h	25.9	24	I/h	30.8	16	h/h	26.4	18	I/H	9.1	19	h/H	6.8	30	I/L	
Grant, Mineral	19.3	25	I/h	18.5	29	I/h	24.5	30	I/h	30.5	17	h/h	17.3	36	L/I	7.2	26	I/H	9.3	19	I/L	
Greenbrier, Summers, Monroe	26.5	11	h/H	24.3	11	h/h	29.7	10	h/H	29.9	21	I/H	25.4	20	I/H	11.1	11	h/H	9.7	18	h/L	
Hampshire, Morgan	21.3	19	I/H	22.3	18	h/h	24.6	29	I/h	29.4	23	I/h	21.8	34	I/h	9.8	15	h/H	11.5	10	h/I	
Hardy, Pendleton, Pocahontas	18.8	27	I/h	20.8	24	I/h	20.5	35	L/I	30.0	20	I/h	22.6	33	I/h	14.3	4	H/H	11.9	8	h/I	
Jackson, Wirt	24.1	14	h/H	17.2	30	I/I	29.4	11	h/h	32.5	12	h/H	25.1	23	I/H	9.1	18	h/H	10.8	12	h/L	
Pleasants, Tyler, Wetzel	20.9	21	I/h	27.2	5	h/H	26.5	21	I/h	33.5	9	h/H	29.9	10	h/H	12.2	6	h/H	8.8	22	I/L	
Preston, Tucker	18.7	28	I/h	24.6	10	h/h	25.9	23	I/h	27.6	30	I/h	24.4	28	I/h	10.1	14	h/H	9.0	20	I/L	
<b>WV / US 2006 / WV vs US</b>	<b>23.3</b>	<b>16.4</b>	<b>H</b>	<b>20.9</b>	<b>18.5</b>	<b>H</b>	<b>27.6</b>	<b>24.2</b>	<b>H</b>	<b>30.3</b>	<b>25.1</b>	<b>H</b>	<b>26.5</b>	<b>19.6</b>	<b>H</b>	<b>8.3</b>	<b>3.4<sup>b</sup></b>	<b>H</b>	<b>9.7</b>	<b>15.1</b>	<b>L</b>	

Source: West Virginia Behavioral Risk Factor Surveillance System (WVBRFSS), West Virginia Health Statistics Center, 2008.

a. Data only available for limited years: Smokeless Tobacco Use (2001-2004, 2008); Hypertension, High Cholesterol (2001-2003, 2005, 2007); Arthritis (1999, 2001, 2003, 2005, 2007).

b. US percent for Smokeless Tobacco Use, Arthritis, Hypertension, and High Cholesterol are from for 2003.

c. Unreliable prevalence estimate - use caution when reporting and interpreting.

d. Some counties were grouped to obtain an adequate sample size for analysis. For these counties, the prevalence, rank, and significance are representative of the combined counties. Individual county estimates are not available for these grouped counties.

\* Sig. = County estimate vs WV / vs US 2006.

H - Significantly higher.

h - Higher but not significant.

I - Lower but not significant.

L - Significantly lower.

## Appendix O, continued 2004-2008 WV Behavioral Risk Factors and Health Conditions by County

County	Diabetes			Hypertension <sup>a</sup>			High Cholesterol <sup>b</sup>			Heart Attack, Angina or Stroke			Current Asthma			Arthritis <sup>a</sup>			
	%	Rank	Sig.*	%	Rank	Sig.*	%	Rank	Sig.*	%	Rank	Sig.*	%	Rank	Sig.*	%	Rank	Sig.*	
<b>Individual Counties</b>																			
Berkeley	8.0	32	L/L	26.3	32	L/h	35.9	31	l/h	9.9	33	L/h	8.6	23	l/h	26.4	35	L/l	
Brooke	9.2	30	l/h	33.8	13	h/h	38.5	23	l/h	11.9	25	l/h	8.5	26	l/h	31.5	28	l/h	
Cabell	10.8	18	l/h	29.7	28	l/h	38.7	22	l/h	12.8	20	l/h	9.1	17	l/h	34.7	18	h/h	
Fayette	11.4	15	h/h	30.4	27	l/h	35.4	32	l/h	12.7	21	l/h	9.6	14	h/h	34.5	19	h/h	
Hancock	11.1	17	l/h	26.0	34	L/h	37.3	28	l/h	11.6	27	l/h	7.8	29	l/l	31.4	29	l/h	
Harrison	11.4	14	h/h	32.1	23	l/h	37.8	27	l/h	11.5	28	l/h	8.6	24	l/h	32.1	27	l/h	
Jefferson	7.4	35	L/L	26.2	33	L/h	27.1	36	L/L	8.4	34	L/l	10.0	12	h/h	28.2	33	L/h	
Kanawha	11.2	16	l/h	33.2	15	h/h	40.0	17	h/h	12.7	22	l/h	7.2	31	L/l	30.5	31	L/h	
Logan	16.5	1	H/H	39.4	4	h/h	44.4	4	h/h	19.0	2	H/H	14.9	2	H/H	41.2	3	h/h	
Marion	7.6	34	L/l	30.6	26	l/h	32.1	34	L/l	11.5	29	l/h	9.4	15	h/h	30.9	30	l/h	
Marshall	9.4	25	l/h	28.4	30	l/h	39.7	19	l/h	14.5	12	h/h	3.3	36	L/L	32.4	25	l/h	
Mason	14.7	4	h/h	31.4	25	l/h	38.4	24	l/h	14.5	11	h/h	12.0	6	h/h	36.8	10	h/h	
McDowell	14.9	3	h/h	42.4	1	H/H	49.7	1	H/H	17.4	4	h/h	14.3	4	h/h	47.1	1	H/H	
Mercer	12.5	8	h/h	35.5	8	h/h	42.6	10	h/h	15.8	7	h/h	10.2	11	h/h	36.5	13	h/h	
Mingo	12.9	7	h/h	41.8	2	H/H	39.7	21	l/h	19.7	1	H/H	14.8	3	H/H	43.5	2	H/H	
Monongalia	8.3	31	l/h	22.5	36	L/l	30.9	35	L/l	6.8	36	L/l	10.4	10	h/h	19.7	36	L/L	
Ohio	11.6	13	h/h	28.1	31	l/h	38.4	25	l/h	14.0	15	h/h	10.7	8	h/h	33.0	23	l/h	
Putnam	9.2	28	l/h	32.3	20	l/h	40.1	16	h/h	10.0	32	L/h	7.2	30	l/l	26.8	34	L/l	
Raleigh	13.4	6	h/h	33.8	12	h/h	37.3	29	l/h	15.8	6	h/h	9.9	13	h/h	38.8	6	h/h	
Randolph	7.2	36	L/l	35.5	7	h/h	33.4	33	l/l	13.7	18	h/h	6.1	35	l/l	34.1	20	l/h	
Upshur	14.5	5	h/h	24.4	35	L/l	42.4	11	h/h	11.8	26	l/h	6.7	33	l/l	32.7	24	l/h	
Wayne	10.1	21	l/h	34.3	10	h/h	41.9	13	h/h	15.3	9	h/h	8.5	25	l/h	39.1	5	h/h	
Wood	10.6	20	l/h	32.2	21	l/h	38.1	26	l/h	13.7	17	h/h	9.1	16	l/h	35.0	16	h/h	
Wyoming	11.7	12	h/h	36.9	5	h/h	43.8	5	h/h	17.7	3	h/h	10.8	7	h/h	39.5	4	h/h	
<b>Grouped Counties<sup>d</sup></b>																			
Barbour, Taylor	9.6	24	l/h	33.4	14	h/h	41.9	14	h/h	13.8	16	h/h	10.7	9	h/h	36.6	12	h/h	
Boone, Lincoln	16.4	2	H/H	39.6	3	H/H	44.4	3	h/h	14.7	10	h/h	12.9	5	h/h	38.5	7	h/h	
Braxton, Nicholas, Webster	9.7	23	l/h	32.9	17	h/h	39.7	20	l/h	14.1	14	h/h	8.7	22	l/h	33.5	22	l/h	
Calhoun, Clay, Gilmer, Roane	9.3	26	l/h	35.0	9	h/h	43.8	6	h/h	12.1	24	l/h	15.0	1	H/H	37.2	9	h/h	
Doddridge, Lewis, Ritchie	12.0	10	h/h	34.1	11	h/h	43.4	7	h/h	14.4	13	h/h	8.7	21	l/h	38.1	8	h/h	
Grant, Mineral	9.2	29	l/h	32.3	19	l/h	45.3	2	h/h	12.8	19	l/h	8.8	20	l/h	35.0	17	h/h	
Greenbrier, Summers, Monroe	12.4	9	h/h	35.6	6	h/h	43.0	9	h/h	16.3	5	h/h	9.0	18	l/h	36.3	14	h/h	
Hampshire, Morgan	11.8	11	h/h	32.2	22	l/h	40.8	15	h/h	12.4	23	l/h	7.8	28	l/l	32.3	26	l/h	
Hardy, Pendleton, Pocahontas	8.0	33	L/l	33.0	16	h/h	43.4	8	h/h	10.1	31	l/h	6.8	32	l/l	30.5	32	l/h	
Jackson, Wirt	10.0	22	l/h	32.5	18	l/h	42.1	12	h/h	15.7	8	h/h	8.4	27	l/h	36.6	11	h/h	
Pleasants, Tyler, Wetzel	10.6	19	l/h	31.5	24	l/h	39.7	18	l/h	10.3	30	l/h	6.6	34	l/l	34.1	21	l/h	
Preston, Tucker	9.3	27	l/h	29.2	29	l/h	36.2	30	l/h	8.1	35	L/l	8.8	19	l/h	35.6	15	h/h	
<b>WV / US 2006 / WV vs US</b>	<b>11.2</b>	<b>8.1</b>	<b>H</b>	<b>32.8</b>	<b>25.8<sup>b</sup></b>	<b>H</b>	<b>39.8</b>	<b>33.6<sup>b</sup></b>	<b>H</b>	<b>13.5</b>	<b>8.5</b>	<b>H</b>	<b>9.3</b>	<b>8.2</b>	<b>H</b>	<b>34.2</b>	<b>27.1<sup>b</sup></b>	<b>H</b>	

Source: West Virginia Behavioral Risk Factor Surveillance System (WVBRFSS), West Virginia Health Statistics Center, 2008.

a. Data only available for limited years: Smokeless Tobacco Use (2001-2004, 2008); Hypertension, High Cholesterol (2001-2003, 2005, 2007); Arthritis (1999, 2001, 2003, 2005, 2007).

b. US percent for Smokeless Tobacco Use, Arthritis, Hypertension, and High Cholesterol are from for 2003.

c. Unreliable prevalence estimate - use caution when reporting and interpreting.

d. Some counties were grouped to obtain an adequate sample size for analysis. For these counties, the prevalence, rank, and significance are representative of the combined counties. Individual county estimates are not available for these grouped counties.

\* Sig. = County estimate vs WV / vs US 2006.

H - Significantly higher.

h - Higher but not significant.

l - Lower but not significant.

L - Significantly lower.

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